



## STATEMENT OF BASIS

Big River Industries, Inc.  
Livlite Division  
Livingston, AL  
Sumter County  
412-0005

This proposed Title V Major Source Operating Permit renewal is issued under the provisions of ADEM Admin. Code R. 335-3-16. The above named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans, and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit.

## **RENEWAL NOTES**

---

1. The MSOP issued on August 7, 2011 listed the gasoline storage tank as an insignificant activity. However, since the gasoline storage tank (F-102) is subject to the regulatory requirements of 40 CFR 63 Subpart CCCCCC – Standards for Hazardous Air Pollutants for Source Category Gasoline Dispensing Facilities, the unit will be incorporated into the renewal permit.
2. At this time, there are no existing National Emissions Standards for Hazardous Air Pollutants (NESHAP) which apply to lightweight aggregate manufacturing facilities.
3. Compliance Assurance Monitoring (CAM), as described in 40 CFR 64, will be included in the renewal permit.

## **FACILITY DESCRIPTION**

---

Big River is a lightweight aggregate manufacturing facility located in Livingston, Alabama. The facility currently operates three (3) rotary kilns, two (2) enclosed dust transport systems, two (2) product crushing operations, and a clay crusher. Big River was issued its existing Major Source Operating Permit (MSOP) on June 23 2009, with an expiration date of August 7, 2013. Per ADEM Rule 335-3-16-.12(2), an application for permit renewal shall be submitted at least six (6) months, but not more than eighteen (18) months, before the date of expiration of the permit. Based on this rule, the application for renewal was due to the Department no later than February 7, 2013, but no earlier than February 7, 2012. An application for permit renewal was received by the Department on February 7, 2013. No additional information was deemed necessary for processing of this MSOP. The proposed MSOP will expire in August 7, 2018.

Lightweight aggregate is produced by heating Porter clay to temperatures between 2,000°F and 2,100°F, which volatilizes carbonaceous compounds within the clay. This forms a porous substance containing small air cells with increased physical strength. The resulting product is used as a construction material in the place of sand, gravel, or stone. The plant is comprised of the following processes:

- Raw Clay Crushing System
- Kiln and Cooler No. 1
- Kiln and Cooler No. 2
- Kiln and Cooler No. 3
- Dust Transport Systems
- Slider Crushing System
- Finished Aggregate Screening and Crushing System
- Aggregate Storage and Loading
- Coal Plant
- Gasoline Storage

## Raw Clay Crushing and Delivery System

Porter clay, received via rail car or truck, is either dumped onto the storage warehouse floor or fed through the crushing system. This system is comprised of two identical crushing lines which include a series of primary crushers, conveyor systems, and clay hoppers. Crushed clay is then weighed, discharged from the scale, and routed to the clay hopper. From the hopper, crushed clay is fed into the kiln for processing. The rated maximum process capacity is 135 TPH.

Fugitive particulate matter (PM) emissions arise from twenty five separate points along the unloading operation, including belt conveyor drop points and primary crushers. Each point is described below:

Source Designation	Source Description	Source Control
F-016	Common Hopper 380-31	None - Fugitive
F-017	Common Belt Conveyor 381-43	None - Fugitive
F-018	Line No. 1 Clay Hopper 381-41	None - Fugitive
F-019	Line No. 1 Belt Conveyor 381-11	None - Fugitive
F-020	Line No. 1 Belt Conveyor 381-13	None - Fugitive
F-021	Common Belt Conveyor 381-42	None - Fugitive
F-022	Line No. 2 Clay Hopper 381-44	None - Fugitive
F-023	Line No. 2 Belt Conveyor 381-21	None - Fugitive
F-024	Line No. 2 Belt Conveyor 381-23	None - Fugitive
F-025	Line No. 2 Belt Conveyor 381-24	None - Fugitive
F-026	Line No. 3 Belt Conveyor 380-32	None - Fugitive
F-028	Line No. 3 Belt Conveyor 381-31	None - Fugitive
F-029	Line No. 3 Belt Conveyor 381-33	None - Fugitive
F-200	Stockpile Line No. 3	None - Fugitive
F-201	Stockpile Line No. 3	None - Fugitive
F-202	Line No. 3 Primary Hopper	None - Fugitive
F-203	Line No. 3 Primary Crusher 380-11	None - Fugitive
F-204	Line No. 3 Belt Conveyor 380-13	None - Fugitive
F-205	Line No. 3 Cross Conveyor 380-17	None - Fugitive
F-300	Stockpile Line No. 4	None - Fugitive
F-301	Stockpile Line No. 4	None - Fugitive
F-302	Line No. 4 Primary Hopper	None - Fugitive
F-303	Line No. 4 Primary Crusher 380-21	None - Fugitive
F-304	Line No. 4 Belt Conveyor 380-16	None - Fugitive
F-305	Line No. 4 Cross Conveyor 380-23	None - Fugitive

## Regulatory Applicability

### *State Regulations*

#### ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b) –Visible Emissions

Emissions from the sources contained within the raw clay crushing system are fugitive. Therefore, this regulation would not apply.

#### ADEM Admin. Code r. 335-3-4-.02 – Fugitive Dust and Fugitive Emissions

This regulation would apply to the raw clay crushing system.

#### ADEM Admin. Code r. 335-3-4-.04(1) – Process Industries - General

Since emissions from each source within the raw clay crushing system are fugitive, this regulation would not apply.

### *New Source Performance Standards (NSPS)*

#### 40 CFR 60, Subpart OOO – “Standards of Performance for Nonmetallic Mineral Processing Plants”

40 CFR §60.670(a)(1) and (e) state the following:

*“Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station...”*

*“An affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after August 31, 1983, is subject to the requirements of this part.”*

Therefore, both lines within the raw clay crushing system, which were last modified in 2002, are subject to the applicable requirements of 40 CFR 60, Subpart OOO.

#### 40 CFR 60, Subpart UUU – “Standards of Performance for Calciners and Dryers in Mineral Industries”

The raw clay crushing system, is not subject to the applicable requirements of 40 CFR 60, Subpart UUU. 40 CFR §60.730(a) states the following:

*“The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. Feed and product conveyors are not considered part of the affected facility. For the brick and related clay products industry, only the calcining and drying of raw materials prior to firing of the brick are covered”*

*“The owner or operator of any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after April 23, 1986, is subject to the requirements of this subpart.”*

Since these sources are not considered affected sources under 40 CFR 60 Subpart UUU, these regulations would not apply.

#### ***Compliance Assurance Monitoring (CAM)***

As stated in 40 CFR 64.2(a)(1), (2), and (3), any pollutant-specific emissions unit at a major source must implement CAM if the following conditions are met:

*“The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (b)(1) of this section; the unit uses a control device to achieve compliance with any such emission limitation or standard; and the unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.”*

Since these sources do not utilize control devices, CAM would not apply.

#### **Emissions Standards**

##### ***Opacity***

##### §60.672(b) – 40 CFR 60 Subpart OOO

The opacity of any fugitive emissions discharged into the atmosphere from any transfer point on belt conveyors shall not exceed ten (10%) percent opacity, as determined by a six-minute average.

##### §60.672(c) – 40 CFR 60 Subpart OOO

The opacity of any fugitive emissions discharged into the atmosphere from any crusher, at which a capture system is not used, shall not exceed fifteen (15%) percent opacity, as determined by a six-minute average.

##### §60.672(d) – 40 CFR 60 Subpart OOO

Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements 40 CFR 60, Subpart OOO.

##### ***Particulate***

There are no unit specific particulate matter emissions limits which apply to these units.

#### **Compliance and Performance Test Methods and Procedures**

##### §60.675(a) – 40 CFR 60 Subpart OOO

In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in 40 CFR 60 Appendix A, or other methods and procedures as specified in §60.675, except as provided in §60.8(b). Acceptable alternative methods and procedures are allowed as specified in §60.675(e).

§60.675(c)(1)(i)(ii) and (iii) – 40 CFR 60 Subpart OOO

Visible emissions observations (VEO) shall be conducted in accordance with §60.11 and Method 9 of 40 CFR 60, Appendix A, with the following additions:

- The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
- The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.
- For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

§60.675(c)(3)(i) and (ii) – 40 CFR 60 Subpart OOO

When determining compliance with the fugitive emissions standard for any affected facility described under §60.672(b), the duration of the Method 9 observations may be reduced from three (3) hours (thirty six-minute averages) to one (1) hour (ten six-minute averages) only if the following conditions apply:

- There are no individual readings greater than ten (10%) percent opacity; and
- There are no more than three (3) readings of ten (10%) percent for the one (1) hour period.

§60.675(c)(4)(i) and (ii) – 40 CFR 60 Subpart OOO

When determining compliance with the fugitive emissions standard for any crusher at which a capture system is not used, as described under §60.672(c), the duration of the Method 9 observations may be reduced from three (3) hours (thirty six-minute averages) to one (1) hour (ten six-minute averages) only if the following conditions apply:

- There are no individual readings greater than fifteen (15%) percent opacity; and
- There are no more than three (3) readings of ten (10%) percent for the one (1) hour period.

§60.675(e)(1)(i) and (ii) – 40 CFR 60 Subpart OOO

The following may be used as alternatives to the reference methods and procedures specified in §60.675 if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read:

Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.

Separate the emissions so that the opacity of emissions from each affected facility can be read.

§60.675(g) – 40 CFR 60 Subpart OOO

If, after thirty (30) days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting any rescheduled performance test required in this section, the owner or operator of an affected facility shall submit a notice to the Administrator at least seven (7) days prior to any rescheduled performance test.

**Periodic Monitoring**

ADEM Admin. Code r. 335-3-16-.05(c)(1)

Opacity monitoring for the following units shall be performed as outlined below:

- A one (1) minute visible emissions observation shall be conducted at least weekly in accordance with Method 22 of 40 CFR 60 Appendix A, during daylight hours while the affected source is in operation.
- If any visible emissions are observed during the Method 22 observation, a twelve (12) minute visible emissions observation shall be conducted in accordance with Method 9 of 40 CFR 60, Appendix A, within thirty (30) minutes of the initial observation, unless the source is immediately shut down.
- If any visible emissions are observed during the initial visible emissions observation, corrective action shall be initiated within two (2) hours.
- After correction action has been completed, a follow-up visible emissions observation shall be conducted in accordance with Method 22 of 40 CFR 60, Appendix A, in order to ensure that no visible emissions are present.

§60.674 – 40 CFR 60 Subpart OOO

There are no specific monitoring requirements outlined in Subpart OOO which apply to these sources. Therefore, these units would be subject to monitoring requirements in accordance with ADEM Admin. Code r. 335-3-16-.05(c)(1) as described above.

**Recordkeeping Requirements**

ADEM Admin. Code r. 335-3-16-.05(c)(2)

Records of the observation date, observation time, emission point designation, name of the observer, expiration date of observer's certification, observed opacity, and any corrective actions taken during each visible emissions observation shall be kept in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

If a visible emissions observation utilizing Method 9 is required, the results shall be documented using the ADEM visible emissions observation report. These records shall be maintained for a period of at least



five (5) years from the date of generation and shall be made available to the permitting authority upon request.

### **Reporting Requirements**

ADEM Admin. Code r. 335-3-16-.05(c)(3)

A semi-annual monitoring report shall be submitted to the Department according the following schedule:

<b>Reporting Period</b>	<b>Due Date</b>
August 8 <sup>th</sup> through February 7 <sup>th</sup>	April 8 <sup>th</sup>
February 8 <sup>th</sup> through August 7 <sup>th</sup>	October 7 <sup>th</sup>

Each semi-annual report shall contain the following information:

- Detailed description of every instance in which the observed six-minute average visible emissions were equal to or greater than the applicable opacity standard, to include the date, time, cause of the visible emissions, observed opacity, and any corrective action initiated;
- Copy of every visible emissions observation report generated during the reporting period;
- Statement certifying that all required monitoring, recordkeeping, and reporting requirements were accomplished as required;
- Statement of certification of truth, accuracy, and completeness as described in General Permit Proviso No. 9; and
- Signature of the responsible official as required by General Permit Proviso No. 9.

### §60.676(f) – 40 CFR 60 Subpart OOO

Written reports documenting the results of all performance tests conducted to demonstrate compliance with the standards set forth in §60.672, including reports of any opacity observations made using Method 9 to demonstrate compliance with §60.672(b), (c), and (f), and reports of observations using Method 22 to demonstrate compliance with §60.672(e) shall be submitted to Department.

## Emissions Summary

Emission Point	Pollutant	Allowable Emissions		Expected Emissions*	
		(lb/hr)	(TPY)	(lb/hr)	(TPY)
F-016	PM	N/A	N/A	1.19	5.21
F-018	PM	N/A	N/A		
F-202	PM	N/A	N/A		
F-302	PM	N/A	N/A		
F-022	PM	N/A	N/A		
F-203	PM	N/A	N/A	0.82	3.59
F-303	PM	N/A	N/A		
F-017	PM	N/A	N/A	2.86	12.53
F-019	PM	N/A	N/A		
F-020	PM	N/A	N/A		
F-021	PM	N/A	N/A		
F-023	PM	N/A	N/A		
F-024	PM	N/A	N/A		
F-025	PM	N/A	N/A		
F-026	PM	N/A	N/A		
F-028	PM	N/A	N/A		
F-029	PM	N/A	N/A		
F-204	PM	N/A	N/A		
F-304	PM	N/A	N/A		
F-200	PM	N/A	N/A	1.91	8.37
F-201	PM	N/A	N/A		
F-300	PM	N/A	N/A		
F-301	PM	N/A	N/A		
F-205	PM	N/A	N/A	0.48	2.12
F-305	PM	N/A	N/A		

\* - All emissions are fugitive. Expected emissions are based on AP-42 emission factors

## Kiln and Cooler No. 1

Kiln No. 1 is a coal fired, refractory lined, rotary kiln which operates in a counter current fashion. Feed materials progress down the kiln incline while combustion gases and kiln dust travel up the incline. Combustion gases and dust generated during the process are routed through a multiclone followed by a wet scrubber. The rated maximum throughput capacity of Kiln No. 1 is 32 TPH of shredded clay and 1.9 TPH of pulverized bituminous coal.

Aggregate product from Kiln No. 1 is screened prior to entering the cooler area. Any oversized aggregate exiting the kiln is diverted to a cooling area prior to entering the slider crushing system. Hot aggregate entering Cooler No. 1 is cooled by ambient air which passes through a reciprocating perforated bed. Cooled aggregate is then fed into a cooling screw prior to entering the stockpile conveyor system. Hot gases from the cooler are rerouted into the kiln combustion system. Any excess air from the cooler is routed through multiclones for particulate control. The cooling screw and conveyor are uncontrolled. The rated maximum throughput capacity of Cooler No. 1 is 24 TPH

This process is comprised of the following emissions points:

Source Designation	Source Description	Source Control
EPN-1A	Kiln No. 1	Multiclones and Wet Scrubber
EPN-1B	Cooler No. 1	Multiclones
F-035	Cooling Screw	None – Fugitive
F-036	Product Conveyor	None – Fugitive

### Regulatory Applicability

#### *State Regulations*

##### ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b) –Visible Emissions

The kiln and cooler are subject to this requirement.

##### ADEM Admin. Code r. 335-3-4-.04(2) – Process Industries - General

The kiln and cooler are subject to this requirement.

#### *New Source Performance Standards (NSPS)*

##### 40 CFR 60, Subpart OOO - “Standards of Performance for Nonmetallic Mineral Processing Plants”

40 CFR §60.670(a)(1) and (e) state the following:

*“Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station.”*

*“An affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after August 31, 1983, is subject to the requirements of this part.”*

Since the kiln and cooler are not considered affected sources under Subpart OOO, these regulations would not apply

40 CFR 60, Subpart UUU - “Standards of Performance for Calciners and Dryers in Mineral Industries”

40 CFR §60.730(a) and (c) state the following:

*“The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. Feed and product conveyors are not considered part of the affected facility...”*

*“The owner or operator of any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after April 23, 1986, is subject to the requirements of this subpart.”*

Since the kiln and cooler (installed in 1968) were constructed prior to the applicability date, these sources are not considered affected sources under Subpart UUU. Therefore, these regulations would not apply.

**Compliance Assurance Monitoring (CAM)**

As stated in 40 CFR 64.2(a)(1), (2), and (3), any pollutant-specific emissions unit at a major source must implement CAM if the following conditions are met:

*“The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (b)(1) of this section; the unit uses a control device to achieve compliance with any such emission limitation or standard; and the unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.”*

Since the following units utilize control devices in order to achieve compliance with the particulate matter emissions standard, CAM would apply:

Emission Point	PSEU Control Device?	PSEU Subject to Limit or Standard?	PSEU Potential Pre-Control Major?	PSEU Potential Post-Control Major?	PSEU Subject to CAM?
EPN-1A	Multiclones and Scrubber	ADEM Admin Code r. 335-3-4-.04(2)	2,102	105	<i>Yes</i>
EPN-1B	Multiclones	ADEM Admin Code r. 335-3-4-.04(2)	1,073	63.1	<i>Yes</i>

## Emissions Standards

### *Opacity*

ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b)

The opacity of any visible emissions discharged into the atmosphere from the scrubber stack associated with the kiln or the multiclone stack associated with the cooler shall not exceed twenty (20%) percent, as determined by a six (6) minute average. During one six (6) minute period in any sixty (60) minute period, visible emissions shall not exceed forty percent (40%) opacity, as determined by a six (6) minute average.

### *Particulate*

ADEM Admin. Code r. 335-3-4-.04(2)

Since these sources, located in Sumter County, were constructed prior to January 18, 1972, they would be subject to the process weight equations for a Class II County. Combined particulate matter emissions from the scrubber stack associated with the kiln and the multiclone stack associated with the cooler shall not exceed that which is determined by the equation for a Class II County:

$$\begin{array}{ccc} E = 4.10 P^{0.67} & \text{OR} & E = 55.0 P^{0.11} - 40 \\ P < 30TPH & & P \geq 30TPH \end{array}$$

### *Nitrogen Oxides*

There are no unit specific nitrogen oxides (NO<sub>x</sub>) emissions limits associated with these sources.

### *Sulfur Dioxide*

There are no unit specific sulfur dioxide (SO<sub>2</sub>) emissions limits associated with these sources.

### *Carbon Monoxide*

There are no unit specific carbon monoxide (CO) emissions limits associated with these sources.

### *Volatile Organic Compounds*

There are no unit specific volatile organic compound (VOC) emissions limits associated with these sources.

## Compliance and Performance Test Methods and Procedures

ADEM Admin. Code r. 335-3-16-.05

Particulate matter (PM) emissions shall be determined in accordance with Method 5 or Method 17 of 40 CFR 60, Appendix A.

Sulfur dioxide (SO<sub>2</sub>) emissions shall be determined in accordance with Method 6 of 40 CFR 60, Appendix A.

Nitrogen oxides (NO<sub>x</sub>) emissions shall be determined in accordance with Method 7 of 40 CFR 60, Appendix A.

Visible emissions observations (VEO) shall be conducted in accordance with Method 9 40 CFR 60, Appendix A.

Carbon monoxide (CO) emissions shall be determined in accordance with Method 10 of 40 CFR 60, Appendix A.

Instantaneous visible emissions observations (VEO) shall be conducted in accordance with Method 22 40 CFR 60, Appendix A.

Volatile organic compound (VOC) emissions shall be determined in accordance with Method 25A of 40 CFR 60, Appendix A.

The scrubber liquid flow rate shall be maintained between 80% and 120% of that which was measured during the most recent stack test which indicated compliance with the applicable emissions limits.

### **Periodic Monitoring**

#### ADEM Admin. Code r. 335-3-16-.05(c)(1)

Opacity monitoring shall be performed as outlined below:

- A one (1) minute visible emissions observation shall be conducted on the wet scrubber stack associated with the kiln and the multiclone stack associated with the cooler at least weekly in accordance with Method 22 of 40 CFR 60 Appendix A. These observations shall be performed during daylight hours while the affected source is in operation.
- If the instantaneous visible emissions opacity observed during the Method 22 observation is greater than ten (10%) percent, a twelve (12) minute visible emissions observation shall be conducted in accordance with Method 9 of 40 CFR 60, Appendix A, within thirty (30) minutes of the initial observation, unless the source is immediately shut down.
- If the average opacity exceeds ten (10%) percent, as determined during any six-minute average, corrective action shall be initiated within two (2) hours.
- After correction action has been completed, a follow-up visible emissions observation shall be conducted in accordance with Method 22 of 40 CFR 60, Appendix A, in order to ensure that no visible emissions are present.

Properly maintained and operated devices shall be utilized to continuously measure the pressure differential (ΔP) and liquid flow rate across the scrubber.

A properly maintained and operated devices shall be utilized measure the hourly raw material feed rate to the kiln.

If the raw material feed rate is increased to or exceed 35 tons per hour (TPH) or a visible emission limitations is exceeded at a feed rate less than 35 TPH, and emissions test shall be performed within a timeframe established by the Department.

Particulate matter (PM) emissions tests shall be conducted on the kiln and cooler at an interval not to exceed twelve (12) months.

#### §64.3(a) through (d) - CAM

Compliance Assurance Monitoring (CAM) is required for this source. In order to comply with the requirements of 40 CFR 64, CAM must be designed in accordance with the requirements of §64.3(a) through (d). A discussion of the CAM plan specific to this source is included in Appendix A.

#### **Recordkeeping Requirements**

##### ADEM Admin. Code r. 335-3-16-.05(c)(2)

Records of the observation date, observation time, emission point designation, name of the observer, expiration date of observer's certification, observed opacity, and any corrective actions taken during each visible emissions observation shall be kept in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

If a visible emissions observation utilizing Method 9 is required, the results shall be documented using the ADEM visible emissions observation report. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

Records documenting any inspections or maintenance performed on the scrubber or multiclone shall be kept in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

Records documenting the liquid flow rate across the scrubber shall be maintained in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

Records documenting the hourly raw material feed rate to the kiln shall be maintained in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

Records of all data charts, performance evaluations, calibration checks, adjustments, maintenance, and any other information regarding the continuous monitoring systems shall be maintained in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

## Reporting Requirements

### ADEM Admin. Code r. 335-3-16-.05(c)(3)

Quarterly excess emissions reports shall be submitted to the Department according to the following schedule:

Reporting Period	Due Date
January 1 <sup>st</sup> through March 31 <sup>st</sup>	April 30 <sup>th</sup>
April 1 <sup>st</sup> through June 30 <sup>th</sup>	July 30 <sup>th</sup>
July 1 <sup>st</sup> through September 30 <sup>th</sup>	October 30 <sup>th</sup>
October 1 <sup>st</sup> through December 31 <sup>st</sup>	January 30 <sup>th</sup>

Each quarterly excess emissions report shall contain the following information:

- A description of each instance in which the recorded wet scrubber liquid flow rate was less than 80% or greater than 120% of the average value recorded during the most recent performance test which demonstrated compliance with the particulate matter emissions standard;
- A description of each instance in which the recorded average raw material feed rate (clay and coal) is greater than 110% of the average value recorded during the most recent performance test which demonstrated compliance with the particulate matter emissions standard;
- When no exceedances occur, the report shall contain a statement certifying that no exceedances occurred during the calendar quarter;
- Statement of certification of truth, accuracy, and completeness as described in General Permit Proviso No. 9; and
- Signature of the responsible official as required by General Permit Proviso No. 9.

### ADEM Admin. Code r. 335-3-16-.05(c)(3)

A semi-annual monitoring report shall be submitted to the Department according the following schedule:

Reporting Period	Due Date
August 8 <sup>th</sup> through February 7 <sup>th</sup>	April 8 <sup>th</sup>
February 8 <sup>th</sup> through August 7 <sup>th</sup>	October 7 <sup>th</sup>

Each semi-annual report shall contain the following information:

- Detailed description of every instance in which the observed six-minute average visible emissions were equal to or greater than the applicable opacity standard, to include the date, time, cause of the visible emissions, observed opacity, and any corrective action initiated;
- Copy of every visible emissions observation report generated during the reporting period;



- Statement certifying that all required monitoring, recordkeeping, and reporting requirements were accomplished as required;
- Statement of certification of truth, accuracy, and completeness as described in General Permit Proviso No. 9; and
- Signature of the responsible official as required by General Permit Proviso No. 9.

### Emissions Summary

Emission Point	Pollutant	Allowable Emissions		Expected Emissions <sup>b</sup>	
		(lb/hr)	(TPY)	(lb/hr)	(TPY)
EPN-1A	PM	40.5 <sup>a</sup>	177 <sup>a</sup>	24	105.12
	SO <sub>2</sub>	N/A	N/A	179.19	784.87
	NO <sub>x</sub>	N/A	N/A	64.9	284.52
	CO	N/A	N/A	39.36	172.39
	VOC	N/A	N/A	24.96	109.32
EPN-1B	PM	40.5 <sup>a</sup>	177 <sup>a</sup>	4.08	7.54
F-035	PM	N/A	N/A	<0.01	<0.01
F-036	PM	N/A	N/A	<0.01	<0.01

<sup>a</sup> Combined PM limit

<sup>b</sup> Material Balance and Test Data

## Kiln and Cooler No. 2

Kiln No. 2 is a coal fired, refractory lined, rotary kiln which operates in a counter current fashion. Feed materials progress down the kiln incline while combustion gases and kiln dust travel up the incline. Combustion gases and dust generated during the process are routed through a multiclone followed by a wet scrubber. The rated maximum throughput capacity of Kiln No. 2 is 40 TPH of shredded clay and 2.8 TPH of pulverized bituminous coal.

Aggregate product from Kiln No. 2 is screened prior to entering the cooler area. Any oversized aggregate exiting the kiln is diverted to a cooling area prior to entering the slider crushing system. Hot aggregate entering Cooler No. 2 is cooled by ambient air which passes through a reciprocating perforated bed. Cooled aggregate is then fed into a cooling screw prior to entering the stockpile conveyor system. Hot gases from the cooler are rerouted into the kiln combustion system. Any excess air from the cooler is routed through multiclones for particulate control. The cooling screw and conveyor are uncontrolled. The rated maximum throughput capacity of Cooler No. 2 is 42 TPH

This process is comprised of the following emissions points:

Source Designation	Source Description	Source Control
EPN-2A	Kiln No. 2	Multiclones and Wet Scrubber
EPN-2B	Cooler No. 2	Multiclones
F-041	Cooling Screw	None – Fugitive
F-042	Product Conveyor	None – Fugitive

### Regulatory Applicability

#### *State Regulations*

ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b) –Visible Emissions

The kiln and cooler are subject to this requirement.

ADEM Admin. Code r. 335-3-4-.04(1) – Process Industries - General

The kiln and cooler are subject to this requirement.

#### *New Source Performance Standards (NSPS)*

40 CFR 60, Subpart OOO - “Standards of Performance for Nonmetallic Mineral Processing Plants”

40 CFR §60.670(a)(1) and (e) state the following:

*“Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station.”*

*“An affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after August 31, 1983, is subject to the requirements of this part.”*

Since the kiln and cooler are not considered affected sources under Subpart OOO, these regulations would not apply.

40 CFR 60, Subpart UUU - “Standards of Performance for Calciners and Dryers in Mineral Industries”

40 CFR §60.730(a) and (c) state the following:

*“The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. Feed and product conveyors are not considered part of the affected facility...”*

*“The owner or operator of any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after April 23, 1986, is subject to the requirements of this subpart.”*

Since the kiln and cooler (both installed in 1974) were constructed prior to the applicability date, these sources are not considered affected sources under Subpart UUU. Therefore, these regulations would not apply.

***National Emissions Standards for Hazardous Air Pollutants (NESHAP)***

There are no existing NESHAP regulations which apply to this type of facility.

***Compliance Assurance Monitoring (CAM)***

As stated in 40 CFR 64.2(a)(1), (2), and (3), any pollutant-specific emissions unit at a major source must implement CAM if the following conditions are met:

*“The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (b)(1) of this section; the unit uses a control device to achieve compliance with any such emission limitation or standard; and the unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.”*

Since the following units utilize control devices in order to achieve compliance with the particulate matter emissions standard, CAM would apply:

Emission Point	PSEU Control Device?	PSEU Subject to Limit or Standard?	PSEU Potential Pre-Control Major?	PSEU Potential Post-Control Major?	PSEU Subject to CAM?
EPN-2A	Multiclones and Scrubber	ADEM Admin Code r. 335-3-4-.04(1)	2,102	105	<i>Yes</i>
EPN-2B	Multiclones	ADEM Admin Code r. 335-3-4-.04(1)	1,800	90.0	<i>Yes</i>

## Emissions Standards

### *Opacity*

ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b)

The opacity of any visible emissions discharged into the atmosphere from the scrubber stack associated with the kiln or the multiclone stack associated with the cooler shall not exceed twenty (20%) percent, as determined by a six (6) minute average. During one six (6) minute period in any sixty (60) minute period, visible emissions shall not exceed forty percent (40%) opacity, as determined by a six (6) minute average.

### *Particulate*

ADEM Admin. Code r. 335-3-4-.04(1) and (5)

Since these sources were constructed after January 18, 1972, they would be subject to the process weight equations for a Class I County (as stated in ADEM Admin. Code r. 335-3-4-.04(5)). Combined particulate matter emissions from the scrubber stack associated with the kiln and the multiclone stack associated with the cooler shall not exceed that which is determined by the equation for a Class I County:

$$E = 3.59 P^{0.62} \quad \text{OR} \quad E = 17.31 P^{0.16}$$

$$P < 30TPH \quad \quad \quad P \geq 30TPH$$

### *Nitrogen Oxides*

There are no unit specific nitrogen oxides (NO<sub>x</sub>) emissions limits associated with these sources.

### *Sulfur Dioxide*

There are no unit specific sulfur dioxide (SO<sub>2</sub>) emissions limits associated with these sources.

### *Carbon Monoxide*

There are no unit specific carbon monoxide (CO) emissions limits associated with these sources.

### *Volatile Organic Compounds*

There are no unit specific volatile organic compound (VOC) emissions limits associated with these sources.

## **Compliance and Performance Test Methods and Procedures**

### ADEM Admin. Code r. 335-3-16-.05

Particulate matter (PM) emissions shall be determined in accordance with Method 5 or Method 17 of 40 CFR 60, Appendix A.

Sulfur dioxide (SO<sub>2</sub>) emissions shall be determined in accordance with Method 6 of 40 CFR 60, Appendix A.

Nitrogen oxides (NO<sub>x</sub>) emissions shall be determined in accordance with Method 7 of 40 CFR 60, Appendix A.

Visible emissions observations (VEO) shall be conducted in accordance with Method 9 40 CFR 60, Appendix A.

Carbon monoxide (CO) emissions shall be determined in accordance with Method 10 of 40 CFR 60, Appendix A.

Instantaneous visible emissions observations (VEO) shall be conducted in accordance with Method 22 40 CFR 60, Appendix A.

Volatile organic compound (VOC) emissions shall be determined in accordance with Method 25A of 40 CFR 60, Appendix A.

Pressure drop ( $\Delta P$ ) across the scrubber shall be maintained between 90% and 110% of that which was measured during the most recent stack test which indicated compliance with the applicable emissions limits.

The scrubber liquid flow rate shall be maintained between 80% and 120% of that which was measured during the most recent stack test which indicated compliance with the applicable emissions limits.

## **Periodic Monitoring**

### ADEM Admin. Code r. 335-3-16-.05(c)(1)

Opacity monitoring shall be performed as outlined below:

- A one (1) minute visible emissions observation shall be conducted on the wet scrubber stack associated with the kiln and the multi-cyclone stack associated with the cooler at least weekly in accordance with Method 22 of 40 CFR 60 Appendix A. These observations shall be performed during daylight hours while the affected source is in operation.
- If the instantaneous visible emissions opacity observed during the Method 22 observation is greater than ten (10%) percent, a twelve (12) minute visible emissions observation shall be conducted in accordance with Method 9 of 40 CFR 60, Appendix A, within thirty (30) minutes of the initial observation, unless the source is immediately shut down.
- If the average opacity exceeds ten (10%) percent, as determined during any six-minute average, corrective action shall be initiated within two (2) hours.
- After correction action has been completed, a follow-up visible emissions observation shall be conducted in accordance with Method 22 of 40 CFR 60, Appendix A, in order to ensure that no visible emissions are present.

Properly maintained and operated devices shall be utilized to continuously measure the pressure differential ( $\Delta P$ ) and liquid flow rate across the scrubber.

A properly maintained and operated device shall be utilized measure the hourly raw material feed rate to the kiln.

Particulate matter (PM) emissions tests shall be conducted on the kiln and cooler at an interval not to exceed twelve (12) months.

#### §64.3(a) through (d) - CAM

Compliance Assurance Monitoring (CAM) is required for this source. In order to comply with the requirements of 40 CFR 64, CAM must be designed in accordance with the requirements of §64.3(a) through (d). A discussion of the CAM plan specific to this source is included in Appendix A.

### **Recordkeeping Requirements**

#### ADEM Admin. Code r. 335-3-16-.05(c)(2)

Records of the observation date, observation time, emission point designation, name of the observer, expiration date of observer's certification, observed opacity, and any corrective actions taken during each visible emissions observation shall be kept in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

If a visible emissions observation utilizing Method 9 is required, the results shall be documented using the ADEM visible emissions observation report. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

Records documenting any inspections or maintenance performed on the scrubber or multiclone shall be kept in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

Records documenting the pressure differential ( $\Delta P$ ) and scrubber liquid flow rate across the scrubber shall be maintained in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

Records documenting the hourly raw material feed rate to the kiln shall be maintained in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

Records of all data charts, performance evaluations, calibration checks, adjustments, maintenance, and any other information regarding the continuous monitoring systems shall be maintained in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

## Reporting Requirements

### ADEM Admin. Code r. 335-3-16-.05(c)(3)

Quarterly excess emissions reports shall be submitted to the Department according to the following schedule:

Reporting Period	Due Date
January 1 <sup>st</sup> through March 31 <sup>st</sup>	April 30 <sup>th</sup>
April 1 <sup>st</sup> through June 30 <sup>th</sup>	July 30 <sup>th</sup>
July 1 <sup>st</sup> through September 30 <sup>th</sup>	October 30 <sup>th</sup>
October 1 <sup>st</sup> through December 31 <sup>st</sup>	January 30 <sup>th</sup>

Each quarterly excess emissions report shall contain the following information:

- A description of each instance in which the recorded wet scrubber differential pressure was less than 90% or greater than 110% of the average value recorded during the most recent performance test which demonstrated compliance with the particulate matter emissions standard;
- A description of each instance in which the recorded wet scrubber liquid flow rate was less than 80% or greater than 120% of the average value recorded during the most recent performance test which demonstrated compliance with the particulate matter emissions standard;
- A description of each instance in which the recorded average raw material feed rate (clay and coal) is greater than 110% of the average value recorded during the most recent performance test which demonstrated compliance with the particulate matter emissions standard;
- When no exceedances occur, the report shall contain a statement certifying that no exceedances occurred during the calendar quarter;
- Statement of certification of truth, accuracy, and completeness as described in General Permit Proviso No. 9; and
- Signature of the responsible official as required by General Permit Proviso No. 9.

### ADEM Admin. Code r. 335-3-16-.05(c)(3)

A semi-annual monitoring report shall be submitted to the Department according the following schedule:

Reporting Period	Due Date
August 8 <sup>th</sup> through February 7 <sup>th</sup>	April 8 <sup>th</sup>
February 8 <sup>th</sup> through August 7 <sup>th</sup>	October 7 <sup>th</sup>

Each semi-annual report shall contain the following information:

- Detailed description of every instance in which the observed six-minute average visible emissions were equal to or greater than the applicable opacity standard, to include the date, time, cause of the visible emissions, observed opacity, and any corrective action initiated;
- Copy of every visible emissions observation report generated during the reporting period;
- Statement certifying that all required monitoring, recordkeeping, and reporting requirements were accomplished as required;
- Statement of certification of truth, accuracy, and completeness as described in General Permit Proviso No. 9; and
- Signature of the responsible official as required by General Permit Proviso No. 9.

### Emissions Summary

Emission Point	Pollutant	Allowable Emissions		Expected Emissions <sup>b</sup>	
		(lb/hr)	(TPY)	(lb/hr)	(TPY)
EPN-2A	PM	31.2 <sup>a</sup>	137 <sup>a</sup>	13.36	12.44
	SO <sub>2</sub>	N/A	N/A	63.2	40.5
	NO <sub>x</sub>	N/A	N/A	81.2	75.6
	CO	N/A	N/A	49.2	45.81
	VOC	N/A	N/A	3.12	2.90
EPN-2B	PM	31.2 <sup>a</sup>	137 <sup>a</sup>	<sup>a</sup> Combined	Limit
F-041	PM	N/A	N/A	<0.01	<0.01
F-042	PM	N/A	N/A	<0.01	<0.01

<sup>a</sup> Combined PM limit

<sup>b</sup> 2012 Emissions Estimates



### Kiln and Cooler No. 3

Kiln No. 3 is a coal fired, refractory lined, rotary kiln which operates in a counter current fashion. Feed materials progress down the kiln incline while combustion gases and kiln dust travel up the incline. Combustion gases and dust generated during the process are routed through a multiclone followed by a wet scrubber. The rated maximum throughput capacity of Kiln No. 3 is 83 TPH.

Aggregate product from Kiln No. 3 is screened prior to entering the cooler area. Any oversized aggregate exiting the kiln is diverted to a cooling area prior to entering the slider crushing system. Hot aggregate entering Cooler No. 3 is cooled by ambient air which passes through a reciprocating perforated bed. Cooled aggregate is then fed into a cooling screw prior to entering the stockpile conveyor system. Hot gases from the cooler are rerouted into the kiln combustion system. Any excess air from the cooler is routed through a baghouse for particulate control. The cooling screw and conveyor are uncontrolled. The rated maximum throughput capacity of Cooler No. 3 is 100 TPH

This process is comprised of the following emissions points:

Source Designation	Source Description	Source Control
EPN-3A	Kiln No. 3	Multiclone and Wet Scrubber
EPN-3B	Cooler No. 3	Baghouse
F-046, F-047, F-048, and F-049	Four (4) Baghouse Dust Conveyor Screws	None – Fugitive
F-050	Cooling Screw	None – Fugitive
F-051	Product Conveyor	None – Fugitive

#### Regulatory Applicability

##### *State Regulations*

##### ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b) –Visible Emissions

The kiln and cooler are subject to this requirement.

##### ADEM Admin. Code r. 335-3-4-.04(1) – Process Industries - General

The kiln and cooler are subject to this requirement.

##### ADEM Admin. Code r. 334-3-14-.04 – Prevention of Significant Deterioration (BACT)

The kiln and cooler have PM, SO<sub>2</sub>, CO, and NO<sub>x</sub> emissions limits in place in order to comply with this requirement.

### ***New Source Performance Standards (NSPS)***

#### **40 CFR 60, Subpart OOO - “Standards of Performance for Nonmetallic Mineral Processing Plants”**

40 CFR §60.670(a)(1) and (e) state the following:

*“Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station.”*

*“An affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after August 31, 1983, is subject to the requirements of this part.”*

Since the kiln and cooler are not considered affected sources under Subpart OOO, these regulations would not apply.

#### **40 CFR 60, Subpart UUU - “Standards of Performance for Calciners and Dryers in Mineral Industries”**

40 CFR §60.730(a) and (c) state the following:

*“The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. Feed and product conveyors are not considered part of the affected facility...”*

*“The owner or operator of any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after April 23, 1986, is subject to the requirements of this subpart.”*

Since the kiln and cooler (both installed in 1989) were constructed after the applicability date, these sources would be considered affected sources under Subpart UUU. Therefore, these regulations would apply.

### ***Compliance Assurance Monitoring (CAM)***

As stated in 40 CFR 64.2(a)(1), (2), and (3), any pollutant-specific emissions unit at a major source must implement CAM if the following conditions are met:

*“The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (b)(1) of this section; the unit uses a control device to achieve compliance with any such emission limitation or standard; and the unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.”*

Since the following units utilize control devices in order to achieve compliance with several emissions standards, CAM would apply:

Emission Point	Pollutant	PSEU Control Device?	PSEU Subject to Limit or Standard?	PSEU Potential Pre-Control Major?	PSEU Potential Post-Control Major?	PSEU Subject to CAM?
EPN-3A	PM	Multiclone and Scrubber	ADEM Admin Code r. 335-3-14-.04 (BACT)	5,030	101	<i>Yes</i>
	SO <sub>2</sub>	Scrubber		3,176	635	<i>Yes</i>
EPN-3B	PM	Baghouse	ADEM Admin Code r. 335-3-4-.04(1)	18,746	46.9	<i>Yes</i>

## Emissions Standards

### *Opacity*

ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b)

The opacity of any visible emissions discharged into the atmosphere from the scrubber stack associated with the kiln or the baghouse stack associated with the cooler shall not exceed twenty (20%) percent, as determined by a six (6) minute average. During one six (6) minute period in any sixty (60) minute period, visible emissions shall not exceed forty percent (40%) opacity, as determined by a six (6) minute average.

### *Particulate*

ADEM Admin. Code r. 334-3-14-.04 – Prevention of Significant Deterioration (BACT)

Particulate matter (PM) emissions from the stack associated with the kiln shall not exceed 0.36 lb/ton raw material feed and 22.97 lb/hr.

Particulate matter (PM) emissions from the stack associated with the cooler shall not exceed 0.17 lb/ton raw material feed and 10.70 lb/hr.

Combined particulate matter (PM) emissions from the stacks associated with the kiln and cooler shall not exceed 0.52 lb/ton raw material feed and 33.67 lb/hr.

40 CFR §60.732(a) – Subpart UUU - Standards for particulate matter

Particulate matter (PM) emissions from the kiln shall not exceed 0.092 gram per dry standard cubic meter (g/dscm) [0.040 grain per dry standard cubic foot (gr/dscf)]

### *Nitrogen Oxides*

ADEM Admin. Code r. 334-3-14-.04 – Prevention of Significant Deterioration (BACT)

Nitrogen oxides (NO<sub>x</sub>) emissions from the stack associated with the kiln shall not exceed 220 lb/hr.

The raw material feed rate shall not exceed 83 TPH.

### ***Sulfur Dioxide***

ADEM Admin. Code r. 334-3-14-.04 – Prevention of Significant Deterioration (BACT)

Sulfur dioxide (SO<sub>2</sub>) emissions from the stack associated with the kiln shall not exceed 2.24 lb/ton of raw material feed and 145.0 lb/hr.

The scrubber shall be maintained and properly operated in such a manner as to maintain a minimum SO<sub>2</sub> removal efficiency of 80%.

The sulfur content of the primary fuel source utilized in the kiln shall not exceed 1.5% by weight.

### ***Carbon Monoxide***

ADEM Admin. Code r. 334-3-14-.04 – Prevention of Significant Deterioration (BACT)

Carbon monoxide (CO) emissions from the stack associated with the kiln shall not exceed 1.23 lb/ton of raw material feed and 80.0 lb/hr.

### ***Volatile Organic Compounds***

There are no unit specific volatile organic compound emissions limits associated with these sources.

## **Compliance and Performance Test Methods and Procedures**

ADEM Admin. Code r. 335-3-16-.05

Particulate matter (PM) emissions shall be determined in accordance with Method 5 or Method 17 of 40 CFR 60, Appendix A.

Sulfur dioxide (SO<sub>2</sub>) emissions shall be determined in accordance with Method 6 of 40 CFR 60, Appendix A.

Nitrogen oxides (NO<sub>x</sub>) emissions shall be determined in accordance with Method 7 of 40 CFR 60, Appendix A.

Visible emissions observations (VEO) shall be conducted in accordance with Method 9 40 CFR 60, Appendix A.

Carbon monoxide (CO) emissions shall be determined in accordance with Method 10 of 40 CFR 60, Appendix A.

Instantaneous visible emissions observations (VEO) shall be conducted in accordance with Method 22 40 CFR 60, Appendix A.

Volatile organic compound (VOC) emissions shall be determined in accordance with Method 25A of 40 CFR 60, Appendix A.

Pressure drop ( $\Delta P$ ) across the scrubber shall be maintained between 12.54 inches of water and 19.11 inches of water.

The scrubber liquid flow rate shall be maintained between 80% and 120% of that which was measured during the most recent stack test which indicated compliance with the applicable emissions limits.

A minimum pH of 3.5 shall be maintained across the scrubber.

Pressure drop ( $\Delta P$ ) across the cooler baghouse shall be maintained between a minimum of one (1) inches of water and a maximum of ten (10) inches of water.

### **Periodic Monitoring**

ADEM Admin. Code r. 335-3-16-.05(c)(1)

Opacity monitoring shall be performed as outlined below:

- A one (1) minute visible emissions observation shall be conducted on the wet scrubber stack associated with the kiln and the multi-cyclone stack associated with the cooler at least weekly in accordance with Method 22 of 40 CFR 60 Appendix A. These observations shall be performed during daylight hours while the affected source is in operation.
- If the instantaneous visible emissions opacity observed during the Method 22 observation is greater than ten (10%) percent, a twelve (12) minute visible emissions observation shall be conducted in accordance with Method 9 of 40 CFR 60, Appendix A, within thirty (30) minutes of the initial observation, unless the source is immediately shut down.
- If the average opacity exceeds ten (10%) percent, as determined during any six-minute average, corrective action shall be initiated within two (2) hours.
- After correction action has been completed, a follow-up visible emissions observation shall be conducted in accordance with Method 22 of 40 CFR 60, Appendix A, in order to ensure that no visible emissions are present.

Properly maintained and operated devices shall be utilized to continuously measure the pressure differential ( $\Delta P$ ) across the scrubber, the scrubber liquid flow rate, and scrubber liquid pH.

A properly maintained and operated device shall be utilized to measure the pressure differential ( $\Delta P$ ) across the cooler baghouse.

A properly maintained and operated device shall be utilized measure the hourly raw material feed rate to the kiln.

Particulate matter (PM) emissions tests shall be conducted on the kiln and cooler at an interval not to exceed twelve (12) months.

Sulfur dioxide ( $\text{SO}_2$ ) emissions and removal efficiency shall be conducted on the kiln at an interval not to exceed twelve (12) months.

Carbon monoxide (CO) emissions tests shall be conducted on the kiln at an interval not to exceed twelve (12) months.

Nitrogen oxides (NO<sub>x</sub>) emissions tests shall be conducted on the kiln at an interval not to exceed twelve (12) months.

#### §64.3(a) through (d) - CAM

Compliance Assurance Monitoring (CAM) is required for this source. In order to comply with the requirements of 40 CFR 64, CAM must be designed in accordance with the requirements of §64.3(a) through (d). A discussion of the CAM plan specific to this source is included in Appendix A.

#### **Recordkeeping Requirements**

##### ADEM Admin. Code r. 335-3-16-.05(c)(2)

Records of the observation date, observation time, emission point designation, name of the observer, expiration date of observer's certification, observed opacity, and any corrective actions taken during each visible emissions observation shall be kept in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

If a visible emissions observation utilizing Method 9 is required, the results shall be documented using the ADEM visible emissions observation report. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

Records documenting any inspections or maintenance performed on the scrubber or multiclone shall be kept in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

Records documenting the pressure differential ( $\Delta P$ ) across the scrubber, the scrubber liquid flow rate, and scrubber liquid pH shall be maintained in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

Records documenting the pressure differential ( $\Delta P$ ) across the cooler baghouse shall be maintained in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

Records documenting the hourly raw material feed rate to the kiln shall be maintained in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

Records of all data charts, performance evaluations, calibration checks, adjustments, maintenance, and any other information regarding the continuous monitoring systems shall be maintained in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

## Reporting Requirements

ADEM Admin. Code r. 335-3-16-.05(c)(3)

Quarterly excess emissions reports shall be submitted to the Department according to the following schedule:

Reporting Period	Due Date
January 1 <sup>st</sup> through March 31 <sup>st</sup>	April 30 <sup>th</sup>
April 1 <sup>st</sup> through June 30 <sup>th</sup>	July 30 <sup>th</sup>
July 1 <sup>st</sup> through September 30 <sup>th</sup>	October 30 <sup>th</sup>
October 1 <sup>st</sup> through December 31 <sup>st</sup>	January 30 <sup>th</sup>

Each quarterly excess emissions report shall contain the following information:

- A description of each instance in which the recorded wet scrubber differential pressure was less than 12.54 inches water or greater than 19.11 inches water of the average value recorded during the most recent performance test which demonstrated compliance with the particulate matter emissions standard;
- A description of each instance in which the recorded wet scrubber liquid flow rate was less than 80% or greater than 120% of the average value recorded during the most recent performance test which demonstrated compliance with the particulate matter emissions standard;
- A description of each instance in which the recorded average raw material feed rate (clay and coal) is greater than 83 TPH;
- A description of each instance in which the recorded scrubber liquid pH fell below the required minimum of 3.5;
- When no exceedances occur, the report shall contain a statement certifying that no exceedances occurred during the calendar quarter;
- Statement of certification of truth, accuracy, and completeness as described in General Permit Proviso No. 9; and
- Signature of the responsible official as required by General Permit Proviso No. 9.

ADEM Admin. Code r. 335-3-16-.05(c)(3)

A semi-annual monitoring report shall be submitted to the Department according the following schedule:

Reporting Period	Due Date
August 8 <sup>th</sup> through February 7 <sup>th</sup>	April 8 <sup>th</sup>
February 8 <sup>th</sup> through August 7 <sup>th</sup>	October 7 <sup>th</sup>

Each semi-annual report shall contain the following information:

- Detailed description of every instance in which the observed six-minute average visible emissions were equal to or greater than the applicable opacity standard, to include the date, time, cause of the visible emissions, observed opacity, and any corrective action initiated;
- Copy of every visible emissions observation report generated during the reporting period;
- Statement certifying that all required monitoring, recordkeeping, and reporting requirements were accomplished as required;
- Statement of certification of truth, accuracy, and completeness as described in General Permit Proviso No. 9; and
- Signature of the responsible official as required by General Permit Proviso No. 9.

### Emissions Summary

Emission Point	Pollutant	Allowable Emissions		Expected Emissions <sup>a</sup>	
		(lb/hr)	(TPY)	(lb/hr)	(TPY)
EPN-3A	PM	22.97	100.6	12.6	45.6
	SO <sub>2</sub>	145.0	635.1	104	48.9
	NO <sub>x</sub>	220	963.6	218.9	608
	CO	80.0	350.4	23.28	121
	VOC	N/A	N/A	11.71	17.29
EPN-3B	PM	10.70	46.87	4.05	17.74
F-046	PM	N/A	N/A	<0.01	<0.01
F-047	PM	N/A	N/A	<0.01	<0.01
F-048	PM	N/A	N/A	<0.01	<0.01
F-049	PM	N/A	N/A	<0.01	<0.01
F-050	PM	N/A	N/A	<0.01	<0.01
F-051	PM	N/A	N/A	<0.01	<0.01

<sup>a</sup> 2012 Emissions Estimates



## Kiln Dust Transport Systems

Dust from the kiln multiclones is vacuumed to filter receiver by blowers. Dust is then deposited into a silo until it is loaded into trucks for disposal. The multiclone dust tanks are emptied once per twenty-four (24) hour period for approximately two (2) hours.

Currently, the facility operates two (2) dust transport systems. Each system is described below:

Source Designation	Source Description	Source Control
EPN-4	Kiln No. 1 and No. 2 Dust Transport System with Dust Silo	Baghouse
EPN-5	Kiln No. 3 Dust Transport System with Dust Silo	Baghouse

### Regulatory Applicability

#### *State Regulations*

##### ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b) –Visible Emissions

These sources are subject to this requirement. However, since these units are also subject to more stringent NSPS limits, this regulation would be superseded.

##### ADEM Admin. Code r. 335-3-4-.04(1) – Process Industries - General

These sources are subject to this requirement. However, since these units are also subject to more stringent NSPS limits, this regulation would be superseded.

#### *New Source Performance Standards (NSPS)*

##### 40 CFR 60, Subpart OOO - “Standards of Performance for Nonmetallic Mineral Processing Plants”

40 CFR §60.670(a)(1) and (e) state the following:

*“Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station...”*

*“An affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after August 31, 1983, is subject to the requirements of this part.”*

Therefore, both kiln dust transport systems, which were constructed in 1995, are subject to the applicable requirements of 40 CFR 60, Subpart OOO.

40 CFR 60, Subpart UUU - “Standards of Performance for Calciners and Dryers in Mineral Industries”

The raw clay crushing system, which was constructed in 1968, is not subject to the applicable requirements of 40 CFR 60, Subpart UUU. 40 CFR §60.730(a) states the following:

*“The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. Feed and product conveyors are not considered part of the affected facility. For the brick and related clay products industry, only the calcining and drying of raw materials prior to firing of the brick are covered”*

*“The owner or operator of any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after April 23, 1986, is subject to the requirements of this subpart.”*

Since these units are not considered to be affected sources under 40 CFR 60 Subpart UUU, these regulations would not apply.

**Compliance Assurance Monitoring (CAM)**

As stated in 40 CFR 64.2(a)(1), (2), and (3), any pollutant-specific emissions unit at a major source must implement CAM if the following conditions are met:

*“The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (b)(1) of this section; the unit uses a control device to achieve compliance with any such emission limitation or standard; and the unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.”*

Since the following units utilize control devices in order to achieve compliance with the particulate matter emissions standard, CAM would apply:

Emission Point	PSEU Control Device?	PSEU Subject to Limit or Standard?	PSEU Potential Pre-Control Major?	PSEU Potential Post-Control Major?	PSEU Subject to CAM?
EPN-4	Baghouse	40 CFR §60.672(a)	7,446	0.74	Yes
EPN-5	Baghouse	40 CFR §60.672(a)	7,446	0.74	Yes

## **Emissions Standards**

### ***Opacity***

#### §60.672(a)(2) – 40 CFR 60 Subpart OOO

The opacity of visible emissions discharged into the atmosphere from each baghouse stack associated with each dust handling system shall not exceed seven (7%) percent opacity, as determined by a six-minute average.

#### §60.672(b) – 40 CFR 60 Subpart OOO

The opacity of any fugitive emissions discharged into the atmosphere from any transfer point on belt conveyors shall not exceed ten (10%) percent opacity, as determined by a six-minute average.

### ***Particulate***

#### §60.672(a)(1) – 40 CFR 60 Subpart OOO

Particulate matter emissions discharged from each baghouse associated with each dust transport system shall not exceed 0.022 gr/dscf.

## **Compliance and Performance Test Methods and Procedures**

#### ADEM Admin. Code r. 335-3-16-.05

Pressure drop ( $\Delta P$ ) across each baghouse shall be maintained between a minimum of one (1) inches of water and a maximum of ten (10) inches of water.

#### §60.675(a) – 40 CFR 60 Subpart OOO

In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in 40 CFR 60 Appendix A, or other methods and procedures as specified in §60.675, except as provided in §60.8(b). Acceptable alternative methods and procedures are allowed as specified in §60.675(e).

#### §60.675(b)(1) and (2) – 40 CFR 60 Subpart OOO

The owner or operator shall determine compliance with the particulate matter standards in §60.672(a) as follows:

- Method 5 or Method 17 shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5, if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.
- Method 9 and the procedures in §60.11 shall be used to determine opacity.

§60.675(c)(1)(i)(ii) and (iii) – 40 CFR 60 Subpart OOO

Visible emissions observations (VEO) shall be conducted in accordance with §60.11 and Method 9 of 40 CFR 60, Appendix A, with the following additions:

- The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
- The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.
- For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

§60.675(c)(3)(i) and (ii) – 40 CFR 60 Subpart OOO

When determining compliance with the fugitive emissions standard for any affected facility described under §60.672(b), the duration of the Method 9 observations may be reduced from three (3) hours (thirty six-minute averages) to one (1) hour (ten six-minute averages) only if the following conditions apply:

- There are no individual readings greater than ten (10%) percent opacity; and
- There are no more than three (3) readings of ten (10%) percent for the one (1) hour period.

§60.675(g) – 40 CFR 60 Subpart OOO

If, after thirty (30) days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting any rescheduled performance test required in this section, the owner or operator of an affected facility shall submit a notice to the Administrator at least seven (7) days prior to any rescheduled performance test.

**Periodic Monitoring**

ADEM Admin. Code r. 335-3-16-.05(c)(1)]

Opacity monitoring for the following units shall be performed as outlined below:

- A one (1) minute visible emissions observation shall be conducted at least weekly in accordance with Method 22 of 40 CFR 60 Appendix A, during daylight hours while the affected source is in operation.
- If any visible emissions are observed during the Method 22 observation, a twelve (12) minute visible emissions observation shall be conducted in accordance with Method 9 of 40 CFR 60, Appendix A, within thirty (30) minutes of the initial observation, unless the source is immediately shut down.

- If any visible emissions are observed during the initial visible emissions observation, corrective action shall be initiated within two (2) hours.
- After correction action has been completed, a follow-up visible emissions observation shall be conducted in accordance with Method 22 of 40 CFR 60, Appendix A, in order to ensure that no visible emissions are present.

#### §60.674 – 40 CFR 60 Subpart OOO

There are no specific monitoring requirements outlined in Subpart OOO which apply to these sources. Therefore, these units would be subject to monitoring requirements in accordance with ADEM Admin. Code r. 335-3-16-.05(c)(1) as described above.

#### §64.3(a) through (d) - CAM

Compliance Assurance Monitoring (CAM) is required for this source. In order to comply with the requirements of 40 CFR 64, CAM must be designed in accordance with the requirements of §64.3(a) through (d). A discussion of the CAM plan specific to this source is included in Appendix A.

### **Recordkeeping Requirements**

#### ADEM Admin. Code r. 335-3-16-.05(c)(2)

Records of the observation date, observation time, emission point designation, name of the observer, expiration date of observer's certification, observed opacity, and any corrective actions taken during each visible emissions observation shall be kept in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

If a visible emissions observation utilizing Method 9 is required, the results shall be documented using the ADEM visible emissions observation report. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

### **Reporting Requirements**

#### ADEM Admin. Code r. 335-3-16-.05(c)(3)

A semi-annual monitoring report shall be submitted to the Department according the following schedule:

Reporting Period	Due Date
August 8 <sup>th</sup> through February 7 <sup>th</sup>	April 8 <sup>th</sup>
February 8 <sup>th</sup> through August 7 <sup>th</sup>	October 7 <sup>th</sup>

Each semi-annual report shall contain the following information:

- Detailed description of every instance in which the observed six-minute average visible emissions were equal to or greater than the applicable opacity standard, to include the date, time, cause of the visible emissions, observed opacity, and any corrective action initiated;

- Copy of every visible emissions observation report generated during the reporting period;
- Statement certifying that all required monitoring, recordkeeping, and reporting requirements were accomplished as required;
- Statement of certification of truth, accuracy, and completeness as described in General Permit Proviso No. 9; and
- Signature of the responsible official as required by General Permit Proviso No. 9.

§60.676(f) – 40 CFR 60 Subpart OOO

Written reports documenting the results of all performance tests conducted to demonstrate compliance with the standards set forth in §60.672, including reports of any opacity observations made using Method 9 to demonstrate compliance with §60.672(b), (c), and (f), and reports of observations using Method 22 to demonstrate compliance with §60.672(e) shall be submitted to Department.

**Emissions Summary**

Emission Point	Pollutant	Allowable Emissions			Expected Emissions*	
		(gr/dscf)	(lb/hr)	(TPY)	(lb/hr)	(TPY)
EPN-4	PM	0.022	0.28	1.23	0.16	0.74
EPN-5	PM	0.022	0.25	1.10	0.16	0.74

\* Expected emissions are based on AP-42 emission factors

## Slider Crushing System

Oversized aggregate, called *sliders*, is conveyed to the slider crushing system via a system of conveyors. Sliders are crushed to less than 1¾ inches by two (2) twin toothed roll crushers in series. The crushed material is then transported via conveyor belt the main kiln run aggregate stockpile. The maximum rated process capacity is 500,000 cubic yards per year (yd<sup>3</sup>/yr). Fugitive emissions from the slider crushing system are reduced via wet suppression.

This process is comprised of the following units:

Source Designation	Source Description	Source Control
F-052	Slider Crusher System Hopper	Wet Suppression
F-053	Slider Crusher	Wet Suppression
F-055 and F-057	Slider Crusher System Conveyor	Wet Suppression
F-215	Portable Slider Crusher System Hopper	Wet Suppression
F-216	Portable Slider Crusher	Wet Suppression
F-217 and F-218	Portable Slider Crushing System Conveyors	Wet Suppression

### Regulatory Applicability

#### *State Regulations*

##### ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b) –Visible Emissions

Emissions from the sources contained within the slider crushing system are fugitive. Therefore, this regulation would not apply.

##### ADEM Admin. Code r. 335-3-4-.02 – Fugitive Dust and Fugitive Emissions

This regulation would apply to the slider crushing system.

##### ADEM Admin. Code r. 335-3-4-.04(1) – Process Industries - General

Since each source within the slider crushing system is uncontrolled, this regulation would not apply.

#### *New Source Performance Standards (NSPS)*

##### 40 CFR 60, Subpart OOO - “Standards of Performance for Nonmetallic Mineral Processing Plants”

40 CFR §60.670(a)(1) and (e) state the following:

*“Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station...”*

*“An affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after August 31, 1983, is subject to the requirements of this part.”*

The slider crushing system, which was installed in 1997, would be subject to the applicable requirements of 40 CFR 60, Subpart OOO.

40 CFR 60, Subpart UUU - “Standards of Performance for Calciners and Dryers in Mineral Industries”

The slider crushing system, which was installed in 1997, is not subject to the applicable requirements of 40 CFR 60, Subpart UUU. 40 CFR §60.730(a) states the following:

*“The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. Feed and product conveyors are not considered part of the affected facility. For the brick and related clay products industry, only the calcining and drying of raw materials prior to firing of the brick are covered”*

*“The owner or operator of any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after April 23, 1986, is subject to the requirements of this subpart.”*

Since the slider crushing system is not considered an affected source under 40 CFR 60 Subpart UUU, these regulations would not apply.

***Compliance Assurance Monitoring (CAM)***

As stated in 40 CFR 64.2(a)(1), (2), and (3), any pollutant-specific emissions unit at a major source must implement CAM if the following conditions are met:

*“The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (b)(1) of this section; the unit uses a control device to achieve compliance with any such emission limitation or standard; and the unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.”*

Emissions from these sources are uncontrolled. Therefore, CAM would not apply.

**Emissions Standards**

***Opacity***

ADEM Admin. Code r. 335-3-16-.05

Wet suppression shall be utilized at all times in order to minimize fugitive emissions from stockpiles, screens, crushers, hoppers, bins, conveyors, transfer points, etc.



§60.672(b) – 40 CFR 60 Subpart OOO

The opacity of any fugitive emissions discharged into the atmosphere from any transfer point on belt conveyors shall not exceed ten (10%) percent opacity, as determined by a six-minute average.

§60.672(c) – 40 CFR 60 Subpart OOO

The opacity of any fugitive emissions discharged into the atmosphere from any crusher, at which a capture system is not used, shall not exceed fifteen (15%) percent opacity, as determined by a six-minute average.

§60.672(d) – 40 CFR 60 Subpart OOO

Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements 40 CFR 60, Subpart OOO.

***Particulate***

There are no unit specific particulate matter emissions limits which apply to these units.

**Compliance and Performance Test Methods and Procedures**

§60.675(a) – 40 CFR 60 Subpart OOO

In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in 40 CFR 60 Appendix A, or other methods and procedures as specified in §60.675, except as provided in §60.8(b). Acceptable alternative methods and procedures are allowed as specified in §60.675(e).

§60.675(c)(1)(i)(ii) and (iii) – 40 CFR 60 Subpart OOO

Visible emissions observations (VEO) shall be conducted in accordance with §60.11 and Method 9 of 40 CFR 60, Appendix A, with the following additions:

- The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
- The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.
- For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

§60.675(c)(3)(i) and (ii) – 40 CFR 60 Subpart OOO

When determining compliance with the fugitive emissions standard for any affected facility described under §60.672(b), the duration of the Method 9 observations may be reduced from three (3) hours (thirty six-minute averages) to one (1) hour (ten six-minute averages) only if the following conditions apply:

- There are no individual readings greater than ten (10%) percent opacity; and
- There are no more than three (3) readings of ten (10%) percent for the one (1) hour period.

§60.675(c)(4)(i) and (ii) – 40 CFR 60 Subpart OOO

When determining compliance with the fugitive emissions standard for any crusher at which a capture system is not used, as described under §60.672(c), the duration of the Method 9 observations may be reduced from three (3) hours (thirty six-minute averages) to one (1) hour (ten six-minute averages) only if the following conditions apply:

- There are no individual readings greater than fifteen (15%) percent opacity; and
- There are no more than three (3) readings of ten (10%) percent for the one (1) hour period.

§60.675(e)(1)(i) and (ii) – 40 CFR 60 Subpart OOO

The following may be used as alternatives to the reference methods and procedures specified in §60.675 if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read:

- Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.
- Separate the emissions so that the opacity of emissions from each affected facility can be read.

§60.675(g) – 40 CFR 60 Subpart OOO

If, after thirty (30) days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting any rescheduled performance test required in this section, the owner or operator of an affected facility shall submit a notice to the Administrator at least seven (7) days prior to any rescheduled performance test.

**Periodic Monitoring**

ADEM Admin. Code r. 335-3-16-.05(c)(1)

Opacity monitoring for the following units shall be performed as outlined below:

- A one (1) minute visible emissions observation shall be conducted at least daily in accordance with Method 22 of 40 CFR 60 Appendix A, during daylight hours while the affected source is in operation.

- If any visible emissions are observed during the Method 22 observation, a twelve (12) minute visible emissions observation shall be conducted in accordance with Method 9 of 40 CFR 60, Appendix A, within thirty (30) minutes of the initial observation, unless the source is immediately shut down.
- If any visible emissions are observed during the initial visible emissions observation, corrective action shall be initiated within two (2) hours.
- After correction action has been completed, a follow-up visible emissions observation shall be conducted in accordance with Method 22 of 40 CFR 60, Appendix A, in order to ensure that no visible emissions are present.

#### §60.674 – 40 CFR 60 Subpart OOO

There are no specific monitoring requirements outlined in Subpart OOO which apply to these sources. Therefore, these units would be subject to monitoring requirements in accordance with ADEM Admin. Code r. 335-3-16-.05(c)(1) as described above.

#### **Recordkeeping Requirements**

##### ADEM Admin. Code r. 335-3-16-.05(c)(2)

Records of the observation date, observation time, emission point designation, name of the observer, expiration date of observer's certification, observed opacity, and any corrective actions taken during each visible emissions observation shall be kept in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

If a visible emissions observation utilizing Method 9 is required, the results shall be documented using the ADEM visible emissions observation report. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

#### **Reporting Requirements**

##### ADEM Admin. Code r. 335-3-16-.05(c)(3)

A semi-annual monitoring report shall be submitted to the Department according the following schedule:

Reporting Period	Due Date
August 8 <sup>th</sup> through February 7 <sup>th</sup>	April 8 <sup>th</sup>
February 8 <sup>th</sup> through August 7 <sup>th</sup>	October 7 <sup>th</sup>

Each semi-annual report shall contain the following information:

- Detailed description of every instance in which the observed six-minute average visible emissions were equal to or greater than the applicable opacity standard, to include the date, time, cause of the visible emissions, observed opacity, and any corrective action initiated;

- Copy of every visible emissions observation report generated during the reporting period;
- Statement certifying that all required monitoring, recordkeeping, and reporting requirements were accomplished as required;
- Statement of certification of truth, accuracy, and completeness as described in General Permit Proviso No. 9; and
- Signature of the responsible official as required by General Permit Proviso No. 9.

§60.676(f) – 40 CFR 60 Subpart OOO

Written reports documenting the results of all performance tests conducted to demonstrate compliance with the standards set forth in §60.672, including reports of any opacity observations made using Method 9 to demonstrate compliance with §60.672(b), (c), and (f), and reports of observations using Method 22 to demonstrate compliance with §60.672(e) shall be submitted to Department.

**Emissions Summary**

Emission Point	Pollutant	Allowable Emissions		Expected Emissions <sup>a</sup>	
		(lb/hr)	(TPY)	(lb/hr)	(TPY)
F-052	PM	N/A	N/A	<0.01	0.02
F-053	PM	N/A	N/A	<0.01	0.01
F-055	PM	N/A	N/A	<0.01	0.02
F-057	PM	N/A	N/A	<0.01	0.01
F-215	PM	N/A	N/A	<0.01	<0.01
F-216	PM	N/A	N/A	<0.01	<0.01
F-217	PM	N/A	N/A	<0.01	<0.01
F-218	PM	N/A	N/A	<0.01	<0.01

<sup>a</sup> 2012 Emissions Estimates

## **Finished Aggregate Screening and Crushing System**

Product exiting the kilns is conveyed to product stockpiles prior to the final screening and crushing process. Aggregate is then passed through a series of conveyors, crushers, and screens in order to properly size the product prior to storage. Inadequately sized material is recycled back into the system for further processing. The maximum rated process capacity for this system 162.5 TPH. Fugitive emissions from these sources are reduced through the use of wet suppression.

This process is comprised of the following units:

<b>Source Designation</b>	<b>Source Description</b>	<b>Source Control</b>
F-058, F-059	Kiln Product Stockpiles	Wet Suppression
F-060	Product Conveyor	Wet Suppression
F-061	8 x 20 Product Screen	Wet Suppression
F-212, F-213	Product Conveyors (2) to Silo No. 4	Wet Suppression
F-062	Product Conveyor to Silo No. 5	Wet Suppression
F-063	Product Conveyor to Surge Hopper	Wet Suppression
F-066	Conveyor to Aggregate Crusher No. 1	Wet Suppression
F-067	Aggregate Crusher No. 1	Wet Suppression
F-068	Conveyor from Crusher No. 1 to 6 x 20 Screen No. 1	Wet Suppression
F-069	6 x 20 Screen No. 1	Wet Suppression
F-070	Conveyor to Aggregate Crusher No. 2	Wet Suppression
F-071	Aggregate Crusher No. 2	Wet Suppression
F-072	Conveyor from Crusher No. 2 to 6 x 20 Screen No. 2	Wet Suppression
F-073	6 x 20 Screen No. 2	Wet Suppression
F-074	Conveyor to Aggregate Crusher No. 3	Wet Suppression
F-075	Aggregate Crusher No. 3	Wet Suppression
F-076	Conveyor from Crusher No. 3 to 8 x 20 Screen (F-077)	Wet Suppression
F-106	Conveyor to Aggregate Crusher No. 4	Wet Suppression
F-107	Aggregate Crusher No. 4	Wet Suppression
F-108	Conveyor from Crusher No. 4 to 8 x 20 Screen (F-077)	Wet Suppression
F-077	8 x 20 Screen (Common to No. 3 and No. 4 Crusher Lines)	Wet Suppression
F-078	Recycle Conveyor from Screens to Surge Hopper	Wet Suppression
F-079	Conveyor from 8 x 20 Screen to Silo Conveyor System	Wet Suppression

## Regulatory Applicability

### *State Regulations*

#### ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b) –Visible Emissions

Emissions from the sources contained within the aggregate screening and crushing system are fugitive. Therefore, this regulation would not apply.

#### ADEM Admin. Code r. 335-3-4-.02 – Fugitive Dust and Fugitive Emissions

This regulation would apply to the these sources.

#### ADEM Admin. Code r. 335-3-4-.04(1) – Process Industries - General

Since each source within the aggregate screening and crushing system is uncontrolled, this regulation would not apply.

### *New Source Performance Standards (NSPS)*

#### 40 CFR 60, Subpart OOO – “Standards of Performance for Nonmetallic Mineral Processing Plants”

40 CFR §60.670(a)(1) and (e) state the following:

*“Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station...”*

*“An affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after August 31, 1983, is subject to the requirements of this part.”*

All of the sources within the aggregate screening and crushing system were installed after the applicability date. Therefore, each one would be subject to the applicable requirements of 40 CFR 60, Subpart OOO.

#### 40 CFR 60, Subpart UUU – “Standards of Performance for Calciners and Dryers in Mineral Industries”

40 CFR §60.730(a) states the following:

*“The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. Feed and product conveyors are not considered part of the affected facility. For the brick and related clay products industry, only the calcining and drying of raw materials prior to firing of the brick are covered”*

*“The owner or operator of any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after April 23, 1986, is subject to the requirements of this subpart.”*

Since the aggregate screening and crushing system is not considered an affected source under 40 CFR 60 Subpart UUU, these regulations would not apply.

#### ***Compliance Assurance Monitoring (CAM)***

As stated in 40 CFR 64.2(a)(1), (2), and (3), any pollutant-specific emissions unit at a major source must implement CAM if the following conditions are met:

*“The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (b)(1) of this section; the unit uses a control device to achieve compliance with any such emission limitation or standard; and the unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.”*

Emissions from these sources are uncontrolled. Therefore, CAM would not apply.

#### **Emissions Standards**

##### ***Opacity***

ADEM Admin. Code r. 335-3-16-.05

Wet suppression shall be utilized at all times in order to minimize fugitive emissions from stockpiles, screens, crushers, hoppers, bins, conveyors, transfer points, etc.

§60.672(b) – 40 CFR 60 Subpart OOO

The opacity of any fugitive emissions discharged into the atmosphere from any transfer point on belt conveyors shall not exceed ten (10%) percent opacity, as determined by a six-minute average.

§60.672(c) – 40 CFR 60 Subpart OOO

The opacity of any fugitive emissions discharged into the atmosphere from any crusher, at which a capture system is not used, shall not exceed fifteen (15%) percent opacity, as determined by a six-minute average.

##### ***Particulate***

There are no unit specific particulate matter emissions limits which apply to these units.

#### **Compliance and Performance Test Methods and Procedures**

§60.675(a) – 40 CFR 60 Subpart OOO

In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in 40 CFR 60 Appendix A, or other methods and procedures as specified in §60.675, except as provided in §60.8(b). Acceptable alternative methods and procedures are allowed as specified in §60.675(e).

§60.675(c)(1)(i)(ii) and (iii) – 40 CFR 60 Subpart OOO

Visible emissions observations (VEO) shall be conducted in accordance with §60.11 and Method 9 of 40 CFR 60, Appendix A, with the following additions:

- The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
- The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.
- For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

§60.675(c)(3)(i) and (ii) – 40 CFR 60 Subpart OOO

When determining compliance with the fugitive emissions standard for any affected facility described under §60.672(b), the duration of the Method 9 observations may be reduced from three (3) hours (thirty six-minute averages) to one (1) hour (ten six-minute averages) only if the following conditions apply:

- There are no individual readings greater than ten (10%) percent opacity; and
- There are no more than three (3) readings of ten (10%) percent for the one (1) hour period.

§60.675(c)(4)(i) and (ii) – 40 CFR 60 Subpart OOO

When determining compliance with the fugitive emissions standard for any crusher at which a capture system is not used, as described under §60.672(c), the duration of the Method 9 observations may be reduced from three (3) hours (thirty six-minute averages) to one (1) hour (ten six-minute averages) only if the following conditions apply:

- There are no individual readings greater than fifteen (15%) percent opacity; and
- There are no more than three (3) readings of ten (10%) percent for the one (1) hour period.

§60.675(e)(1)(i) and (ii) – 40 CFR 60 Subpart OOO

The following may be used as alternatives to the reference methods and procedures specified in §60.675 if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read:

- Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.
- Separate the emissions so that the opacity of emissions from each affected facility can be read.



#### §60.675(g) – 40 CFR 60 Subpart OOO

If, after thirty (30) days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting any rescheduled performance test required in this section, the owner or operator of an affected facility shall submit a notice to the Administrator at least seven (7) days prior to any rescheduled performance test.

#### **Periodic Monitoring**

##### ADEM Admin. Code r. 335-3-16-.05(c)(1)

Opacity monitoring for the following units shall be performed as outlined below:

- A one (1) minute visible emissions observation shall be conducted at least daily in accordance with Method 22 of 40 CFR 60 Appendix A, during daylight hours while the affected source is in operation.
- If any visible emissions are observed during the Method 22 observation, a twelve (12) minute visible emissions observation shall be conducted in accordance with Method 9 of 40 CFR 60, Appendix A, within thirty (30) minutes of the initial observation, unless the source is immediately shut down.
- If any visible emissions are observed during the initial visible emissions observation, corrective action shall be initiated within two (2) hours.
- After correction action has been completed, a follow-up visible emissions observation shall be conducted in accordance with Method 22 of 40 CFR 60, Appendix A, in order to ensure that no visible emissions are present.

#### §60.674 – 40 CFR 60 Subpart OOO

There are no specific monitoring requirements outlined in Subpart OOO which apply to these sources. Therefore, these units would be subject to monitoring requirements in accordance with ADEM Admin. Code r. 335-3-16-.05(c)(1) as described above.

#### **Recordkeeping Requirements**

##### ADEM Admin. Code r. 335-3-16-.05(c)(2)

Records of the observation date, observation time, emission point designation, name of the observer, expiration date of observer's certification, observed opacity, and any corrective actions taken during each visible emissions observation shall be kept in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

If a visible emissions observation utilizing Method 9 is required, the results shall be documented using the ADEM visible emissions observation report. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

## Reporting Requirements

ADEM Admin. Code r. 335-3-16-.05(c)(3)

A semi-annual monitoring report shall be submitted to the Department according the following schedule:

Reporting Period	Due Date
August 8 <sup>th</sup> through February 7 <sup>th</sup>	April 8 <sup>th</sup>
February 8 <sup>th</sup> through August 7 <sup>th</sup>	October 7 <sup>th</sup>

Each semi-annual report shall contain the following information:

- Detailed description of every instance in which the observed six-minute average visible emissions were equal to or greater than the applicable opacity standard, to include the date, time, cause of the visible emissions, observed opacity, and any corrective action initiated;
- Copy of every visible emissions observation report generated during the reporting period;
- Statement certifying that all required monitoring, recordkeeping, and reporting requirements were accomplished as required;
- Statement of certification of truth, accuracy, and completeness as described in General Permit Proviso No. 9; and
- Signature of the responsible official as required by General Permit Proviso No. 9.

### §60.676(f) – 40 CFR 60 Subpart OOO

Written reports documenting the results of all performance tests conducted to demonstrate compliance with the standards set forth in §60.672, including reports of any opacity observations made using Method 9 to demonstrate compliance with §60.672(b), (c), and (f), and reports of observations using Method 22 to demonstrate compliance with §60.672(e) shall be submitted to Department

## Emissions Summary

Emission Point	Pollutant	Allowable Emissions *		Expected Emissions <sup>a</sup>	
		(lb/hr)	(TPY)	(lb/hr)	(TPY)
F-058, F-059	PM	N/A	N/A	0.02	0.11
F-060	PM	N/A	N/A	<0.01	<0.01
F-061	PM	N/A	N/A	<0.01	0.020
F-212, F-213	PM	N/A	N/A	<0.01	<0.01
F-062	PM	N/A	N/A	<0.01	<0.01
F-063	PM	N/A	N/A	<0.01	<0.01
F-066	PM	N/A	N/A	<0.01	<0.01
F-067	PM	N/A	N/A	0.01	0.03
F-068	PM	N/A	N/A	<0.01	<0.01
F-069	PM	N/A	N/A	<0.01	0.02
F-070	PM	N/A	N/A	<0.01	<0.01
F-071	PM	N/A	N/A	0.01	0.03
F-072	PM	N/A	N/A	<0.01	<0.01
F-073	PM	N/A	N/A	<0.01	0.02
F-074	PM	N/A	N/A	<0.01	<0.01
F-075	PM	N/A	N/A	0.01	0.03
F-076	PM	N/A	N/A	<0.01	<0.01
F-106	PM	N/A	N/A	<0.01	<0.01
F-107	PM	N/A	N/A	0.01	0.03
F-108	PM	N/A	N/A	<0.01	<0.01
F-077	PM	N/A	N/A	<0.01	0.02
F-078	PM	N/A	N/A	<0.01	<0.01
F-079	PM	N/A	N/A	<0.01	<0.01

*All emissions are fugitive*  
*<sup>a</sup> 2012 Emissions Estimates*

## **Aggregate Storage and Loading**

Light aggregate is transferred from the crushers to one of five (5) storage silos via conveyors where it is stored prior to truck or railcar loading. Each silo has a maximum rated capacity of 1,500 tons and the total maximum throughput capacity for the silo system is 162.5 TPH. Emissions from the silos are uncontrolled.

Product is transferred from the storage silos to either a truck or rail car via a common conveyor belt system. Each railcar or truck has a maximum carrying capacity of 140 yd<sup>3</sup>. Water, distributed through a spray manifold, is sprayed onto the product during the loading process in order to control fugitive emissions.

This process is comprised of the following units:

Source Designation	Source Description	Source Control
F-080, F-081, F-082	Conveyors (3) from Crushing Area to Silos No. 1 and No. 2	None – Fugitive
F-085	Silo No. 1	None – Fugitive
F-086	Silo No. 2	None – Fugitive
F-084	Conveyor from Silo No. 2 to Silo No. 3	None – Fugitive
F-087	Silo No. 3	None – Fugitive
F-088	Silo No. 4	None – Fugitive
F-089	Silo No. 5	None – Fugitive
F-090, F-091, F-092	Conveyors (3) from Silos to Loading Area	None – Fugitive
F-093	Loading Area	Wet Suppression

### **Regulatory Applicability**

#### ***State Regulations***

##### ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b) – Visible Emissions

Emissions from the storage and loading area are fugitive. Therefore, this regulation would not apply.

##### ADEM Admin. Code r. 335-3-4-.02 – Fugitive Dust and Fugitive Emissions

This regulation would apply to these sources.

##### ADEM Admin. Code r. 335-3-4-.04(1) – Process Industries - General

Since emissions from each source are uncontrolled, this regulation would not apply.

### ***New Source Performance Standards (NSPS)***

#### **40 CFR 60, Subpart OOO - “Standards of Performance for Nonmetallic Mineral Processing Plants”**

40 CFR §60.670(a)(1) and (e) state the following:

*“Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station...”*

*“An affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after August 31, 1983, is subject to the requirements of this part.”*

While most of the sources were installed in 1968, prior to the applicability date, several modifications were made in 2006. Therefore, they would be subject to any requirements under 40 CFR 60, Subpart OOO.

#### **40 CFR 60, Subpart UUU - “Standards of Performance for Calciners and Dryers in Mineral Industries”**

40 CFR §60.730(a) states the following:

*“The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. Feed and product conveyors are not considered part of the affected facility. For the brick and related clay products industry, only the calcining and drying of raw materials prior to firing of the brick are covered”*

*“The owner or operator of any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after April 23, 1986, is subject to the requirements of this subpart.”*

These units are not considered an affected source under 40 CFR 60 Subpart UUU. Therefore, these regulations would not apply.

### ***Compliance Assurance Monitoring (CAM)***

As stated in 40 CFR 64.2(a)(1), (2), and (3), any pollutant-specific emissions unit at a major source must implement CAM if the following conditions are met:

*“The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (b)(1) of this section; the unit uses a control device to achieve compliance with any such emission limitation or standard; and the unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.”*

Since these sources do not utilize control devices, CAM would not apply.

## **Emissions Standards**

### ***Opacity***

#### ADEM Admin. Code r. 335-3-16-.05

Wet suppression shall be utilized at all times in order to minimize fugitive emissions from stockpiles, screens, crushers, hoppers, bins, conveyors, transfer points, etc.

#### §60.672(b) – 40 CFR 60 Subpart OOO

The opacity of any fugitive emissions discharged into the atmosphere from any transfer point on belt conveyors shall not exceed ten (10%) percent opacity, as determined by a six-minute average.

#### §60.672(d) – 40 CFR 60 Subpart OOO

Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements 40 CFR 60, Subpart OOO.

### ***Particulate***

There are no unit specific particulate matter emissions limits which apply to these units.

## **Compliance and Performance Test Methods and Procedures**

#### §60.675(a) – 40 CFR 60 Subpart OOO

In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in 40 CFR 60 Appendix A, or other methods and procedures as specified in §60.675, except as provided in §60.8(b). Acceptable alternative methods and procedures are allowed as specified in §60.675(e).

#### §60.675(c)(1)(i)(ii) and (iii) – 40 CFR 60 Subpart OOO

Visible emissions observations (VEO) shall be conducted in accordance with §60.11 and Method 9 of 40 CFR 60, Appendix A, with the following additions:

- The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
- The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.
- For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

§60.675(c)(3)(i) and (ii) – 40 CFR 60 Subpart OOO

When determining compliance with the fugitive emissions standard for any affected facility described under §60.672(b), the duration of the Method 9 observations may be reduced from three (3) hours (thirty six-minute averages) to one (1) hour (ten six-minute averages) only if the following conditions apply:

- There are no individual readings greater than ten (10%) percent opacity; and
- There are no more than three (3) readings of ten (10%) percent for the one (1) hour period.

§60.675(e)(1)(i) and (ii) – 40 CFR 60 Subpart OOO

The following may be used as alternatives to the reference methods and procedures specified in §60.675 if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read:

- Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.
- Separate the emissions so that the opacity of emissions from each affected facility can be read.

§60.675(g) – 40 CFR 60 Subpart OOO

If, after thirty (30) days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting any rescheduled performance test required in this section, the owner or operator of an affected facility shall submit a notice to the Administrator at least seven (7) days prior to any rescheduled performance test.

**Periodic Monitoring**

ADEM Admin. Code r. 335-3-16-.05(c)(1)

Opacity monitoring for the following units shall be performed as outlined below:

- A one (1) minute visible emissions observation shall be conducted at least daily in accordance with Method 22 of 40 CFR 60 Appendix A, during daylight hours while the affected source is in operation.
- If any visible emissions are observed during the Method 22 observation, a twelve (12) minute visible emissions observation shall be conducted in accordance with Method 9 of 40 CFR 60, Appendix A, within thirty (30) minutes of the initial observation, unless the source is immediately shut down.
- If any visible emissions are observed during the initial visible emissions observation, corrective action shall be initiated within two (2) hours.
- After correction action has been completed, a follow-up visible emissions observation shall be conducted in accordance with Method 22 of 40 CFR 60, Appendix A, in order to ensure that no visible emissions are present.

§60.674 – 40 CFR 60 Subpart OOO

There are no specific monitoring requirements outlined in Subpart OOO which apply to these sources. Therefore, these units would be subject to monitoring requirements in accordance with ADEM Admin. Code r. 335-3-16-.05(c)(1) as described above.

**Recordkeeping Requirements**

ADEM Admin. Code r. 335-3-16-.05(c)(2)

Records of the observation date, observation time, emission point designation, name of the observer, expiration date of observer's certification, observed opacity, and any corrective actions taken during each visible emissions observation shall be kept in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

If a visible emissions observation utilizing Method 9 is required, the results shall be documented using the ADEM visible emissions observation report. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

**Reporting Requirements**

ADEM Admin. Code r. 335-3-16-.05(c)(3)

A semi-annual monitoring report shall be submitted to the Department according the following schedule:

Reporting Period	Due Date
August 8 <sup>th</sup> through February 7 <sup>th</sup>	April 8 <sup>th</sup>
February 8 <sup>th</sup> through August 7 <sup>th</sup>	October 7 <sup>th</sup>

Each semi-annual report shall contain the following information:

- Detailed description of every instance in which the observed six-minute average visible emissions were equal to or greater than the applicable opacity standard, to include the date, time, cause of the visible emissions, observed opacity, and any corrective action initiated;
- Copy of every visible emissions observation report generated during the reporting period;
- Statement certifying that all required monitoring, recordkeeping, and reporting requirements were accomplished as required;
- Statement of certification of truth, accuracy, and completeness as described in General Permit Proviso No. 9; and
- Signature of the responsible official as required by General Permit Proviso No. 9.



§60.676(f) – 40 CFR 60 Subpart OOO

Written reports documenting the results of all performance tests conducted to demonstrate compliance with the standards set forth in §60.672, including reports of any opacity observations made using Method 9 to demonstrate compliance with §60.672(b), (c), and (f), and reports of observations using Method 22 to demonstrate compliance with §60.672(e) shall be submitted to Department

**Emissions Summary**

Emission Point	Pollutant	Allowable Emissions *		Expected Emissions	
		(lb/hr)	(TPY)	(lb/hr)	(TPY)
F-080, F-081, F-082	PM	N/A	N/A	0.53	2.32
F-085	PM	N/A	N/A	0.04	0.17
F-086	PM	N/A	N/A	0.04	0.17
F-084	PM	N/A	N/A	0.04	0.17
F-087	PM	N/A	N/A	0.04	0.17
F-088	PM	N/A	N/A	0.04	0.17
F-089	PM	N/A	N/A	0.01	0.05
F-090, F-091, F-092	PM	N/A	N/A	0.53	2.32
F-093	PM	N/A	N/A	0.12	0.52

\* - All emissions are fugitive. Expected emissions are based on AP-42 emission factors.

## Coal Plant

Coal is received and unloaded from trucks into a covered shed. Coal is then dumped into a hopper where it is then conveyed via an incline belt to the primary crusher, where it reduced from approximately 4” to 2”. From there, crushed coal is conveyed into a coal silo until it is needed in the kilns. From the silo, crushed coal is conveyed to over a belt scale followed by one of three (3) coal mills where it is ground into a fine dust before being pneumatically conveyed into the corresponding kiln. Emissions from the hopper and transfer points are uncontrolled. Each coal mill is fully enclosed, with all resulting particulate emissions vented into the kilns. The maximum rated process capacity is 15 TPH.

This process is comprised of the following units:

Source Designation	Source Description	Source Control
F-095	Coal Hopper/Truck Unloading Operations	None – Fugitive
F-096	Slow Belt/Incline Belt	None – Fugitive
F-097	Coal Crusher	None – Fugitive
F-098	Coal Silo	None – Fugitive
F-099	Belt Conveyor Scale	None – Fugitive
N/A	Coal Mill No. 1 (to Kiln No. 1)	N/A
N/A	Coal Mill No. 2 (to Kiln No. 2)	N/A
N/A	Coal Mill No. 3 (to Kiln No. 3)	N/A

### Regulatory Applicability

#### *State Regulations*

##### ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b) – Visible Emissions

Emissions from the hopper and transfer points are fugitive. Therefore, this regulation would not apply.

##### ADEM Admin. Code r. 335-3-4-.02 – Fugitive Dust and Fugitive Emissions

This regulation would apply to these sources.

##### ADEM Admin. Code r. 335-3-4-.04(1) – Process Industries - General

Since emissions from the hopper and transfer points are uncontrolled, this regulation would not apply.

#### *New Source Performance Standards (NSPS)*

##### 40 CFR 60, Subpart Y - “Standards of Performance for Coal Preparation Plants”

40 CFR §60.250(a) and (b) state the following:

*“The provisions of this subpart are applicable to any of the following affected facilities in coal preparation plants which process more than 181 Mg (200 tons) per day: thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems.”*

*“Any facility under paragraph (a) of this section that commences construction or modification after October 24, 1974, is subject to the requirements of this subpart.”*

The hopper, conveyors, crusher, and silo were constructed after the applicability date. Therefore, each one would be subject to the applicable requirements under 40 CFR 60, Subpart Y.

40 CFR 60, Subpart UUU - “Standards of Performance for Calciners and Dryers in Mineral Industries”

40 CFR §60.730(a) states the following:

*“The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. Feed and product conveyors are not considered part of the affected facility. For the brick and related clay products industry, only the calcining and drying of raw materials prior to firing of the brick are covered”*

*“The owner or operator of any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after April 23, 1986, is subject to the requirements of this subpart.”*

These units are not considered an affected source under 40 CFR 60 Subpart UUU. Therefore, these regulations would not apply.

**Compliance Assurance Monitoring (CAM)**

As stated in 40 CFR 64.2(a)(1), (2), and (3), any pollutant-specific emissions unit at a major source must implement CAM if the following conditions are met:

*“The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (b)(1) of this section; the unit uses a control device to achieve compliance with any such emission limitation or standard; and the unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.”*

Since these sources do not utilize control devices, CAM would not apply.

## **Emissions Standards**

### ***Opacity***

#### §60.252(c) – 40 CFR 60 Subpart Y

The opacity of any visible emissions discharged from any coal processing (including the crusher) and conveying equipment, coal storage systems, or coal transfer and loading system shall not exceed twenty (20%) percent.

### ***Particulate***

There are no unit specific particulate matter emissions limits which apply to these units.

## **Compliance and Performance Test Methods and Procedures**

#### ADEM Admin. Code r. 335-3-16-.05

Particulate matter (PM) emissions shall be determined in accordance with Method 5 or Method 17 of 40 CFR 60, Appendix A.

Visible emissions observations (VEO) shall be conducted in accordance with Method 9 40 CFR 60, Appendix A.

Instantaneous visible emissions observations (VEO) shall be conducted in accordance with Method 22 40 CFR 60, Appendix A.

## **Periodic Monitoring**

#### ADEM Admin. Code r. 335-3-16-.05(c)(1)]

Opacity monitoring for the following units shall be performed as outlined below:

- A one (1) minute visible emissions observation shall be conducted at least weekly in accordance with Method 22 of 40 CFR 60 Appendix A, during daylight hours while the affected source is in operation.
- If visible emissions equal to or greater than ten (10%) percent opacity are observed during the Method 22 observation, a twelve (12) minute visible emissions observation shall be conducted in accordance with Method 9 of 40 CFR 60, Appendix A, within thirty (30) minutes of the initial observation, unless the source is immediately shut down.
- If visible emissions equal to or greater than ten (10%) percent opacity are observed during the initial visible emissions observation, corrective action shall be initiated within two (2) hours.
- After correction action has been completed, a follow-up visible emissions observation shall be conducted in accordance with Method 22 of 40 CFR 60, Appendix A, in order to ensure that visible emissions in excess of ten (10%) percent opacity are no longer present.

## Recordkeeping Requirements

### ADEM Admin. Code r. 335-3-16-.05(c)(2)

Records of the observation date, observation time, emission point designation, name of the observer, expiration date of observer's certification, observed opacity, and any corrective actions taken during each visible emissions observation shall be kept in a permanent form suitable for inspection. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

If a visible emissions observation utilizing Method 9 is required, the results shall be documented using the ADEM visible emissions observation report. These records shall be maintained for a period of at least five (5) years from the date of generation and shall be made available to the permitting authority upon request.

## Reporting Requirements

### ADEM Admin. Code r. 335-3-16-.05(c)(3)

A semi-annual monitoring report shall be submitted to the Department according the following schedule:

Reporting Period	Due Date
August 8 <sup>th</sup> through February 7 <sup>th</sup>	April 8 <sup>th</sup>
February 8 <sup>th</sup> through August 7 <sup>th</sup>	October 7 <sup>th</sup>

Each semi-annual report shall contain the following information:

- Detailed description of every instance in which the observed six-minute average visible emissions were equal to or greater than the applicable opacity standard, to include the date, time, cause of the visible emissions, observed opacity, and any corrective action initiated;
- Copy of every visible emissions observation report generated during the reporting period;
- Statement certifying that all required monitoring, recordkeeping, and reporting requirements were accomplished as required;
- Statement of certification of truth, accuracy, and completeness as described in General Permit Proviso No. 9; and
- Signature of the responsible official as required by General Permit Proviso No. 9.

## Emissions Summary

Emission Point	Pollutant	Allowable Emissions *		Expected Emissions <sup>a</sup>	
		(lb/hr)	(TPY)	(lb/hr)	(TPY)
F-095	PM	N/A	N/A	<0.01	0.02
F-096	PM	N/A	N/A	<0.01	<0.01
F-097	PM	N/A	N/A	0.02	0.09
F-098	PM	N/A	N/A	0.12	0.51
F-099	PM	N/A	N/A	<0.01	<0.01

\* - All emissions are fugitive

<sup>a</sup> 2012 Emissions Estimates

## Gasoline Storage Tank

This process is comprised of the following unit:

Source Designation	Source Description	Source Control
F-102	Gasoline Storage Tank	None – Fugitive

### Regulatory Applicability

#### *State Implementation Plan (SIP) Regulations*

##### ADEM Admin. Code r. 335-3-4-.01(1)(a) and (b) –Visible Emissions

Emissions from this source are fugitive. Therefore, this regulation would not apply.

##### ADEM Admin. Code r. 335-3-4-.02 – Fugitive Dust and Fugitive Emissions

This regulation would apply to gasoline storage tank.

##### ADEM Admin. Code r. 335-3-4-.04(1) – Process Industries - General

Since emissions from this source are uncontrolled, this regulation would not apply.

#### *National Emissions Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities (NESHAP)*

40 CFR §63.11111(a) state the following:

*“The affected source to which this subpart applies is each GDF that is located at an area source. The affected source includes each gasoline cargo tank during the delivery of product to a GDF and also includes each storage tank.”*

This unit is considered an affected source under 40 CFR 63 Subpart CCCCCC. Therefore, these regulations would apply.

#### *Compliance Assurance Monitoring (CAM)*

As stated in 40 CFR 64.2(a)(1), (2), and (3), any pollutant-specific emissions unit at a major source must implement CAM if the following conditions are met:

*“The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (b)(1) of this section; the unit uses a control device to achieve compliance with any such emission limitation or standard; and the unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.”*

Since this source does not utilize a control device, CAM would not apply.

## **Emissions Standards**

There are no unit specific emissions limits which apply to this unit.

## **Compliance and Performance Test Methods and Procedures**

### §63.11120(a) – 40 CFR 63 Subpart CCCCCC

In conducting the performance tests required in §63.7, the owner or operator shall use as reference methods and procedures the test methods in 40 CFR 60 Appendix A, or other methods and procedures as specified in §63.11120. Acceptable alternative methods and procedures are allowed as specified in §63.7(f).

## **Emission Monitoring**

### §63.11116 (a)(1-4)(b)(c)(d) – 40 CFR 63 Subpart CCCCCC

(a) You must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:

- (1) Minimize gasoline spills;
  - (2) Clean up spills as expeditiously as practicable;
  - (3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;
  - (4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.
- (b) You are not required to submit notifications or reports as specified in § 63.11125, § 63.11126, or subpart A of this part, but you must have records available within 24 hours of a request by the Administrator to document your gasoline throughput.
- (c) You must comply with the requirements of this subpart by the applicable dates specified in § 63.11113.
- (d) Portable gasoline containers that meet the requirements of 40 CFR part 59, subpart F, are considered acceptable for compliance with paragraph (a)(3) of this section.

## **Recordkeeping Requirements**

### ADEM Admin. Code r. 335-3-16-.05(c)(2)

Records of yearly gasoline throughput will be maintained in a permanent form suitable for inspection for a period of at least 5 years.



ADEM Admin. Code r. 335-3-16-.05(c)(3)

A semi-annual monitoring report shall be submitted to the Department according the following schedule:

Reporting Period	Due Date
August 8 <sup>th</sup> through February 7 <sup>th</sup>	April 8 <sup>th</sup>
February 8 <sup>th</sup> through August 7 <sup>th</sup>	October 7 <sup>th</sup>

Each semi-annual report shall contain the following information:

- Statement certifying that all required monitoring, recordkeeping, and reporting requirements were accomplished as required;
- Statement of certification of truth, accuracy, and completeness as described in General Permit Proviso No. 9; and
- Signature of the responsible official as required by General Permit Proviso No. 9.

**Emissions Summary**

Emission Point	Pollutant	Allowable Emissions *		Expected Emissions	
		(lb/hr)	(TPY)	(lb/hr)	(TPY)
F-102	VOC	N/A	N/A	<0.01	<0.01

## **APPENDIX A**

## Compliance Assurance Monitoring

### *Applicability*

The following sources are subject to the applicable requirements of 40 CFR 64, “*Compliance Assurance Monitoring*” as outlined in §64.2(a)(1) through (3):

Source Designation	Source Description	Control Device
EPN-1A	Kiln No. 1	Multiclone and Wet Scrubber
EPN-1B	Cooler No. 1	Multiclone
EPN-2A	Kiln No. 2	Multiclone and Wet Scrubber
EPN-2B	Cooler No. 2	Multiclone
EPN-3A	Kiln No. 3	Multiclone and Wet Scrubber
EPN-3B	Cooler No. 3	Baghouse
EPN-4	Kiln No. 1 and No. 2 Dust Transport System	Baghouse
EPN-5	Kiln No. 3 Dust Transport System	Baghouse

### *Monitoring Design Criteria*

#### §64.3(a)(1) through (3) - General Criteria

In order to provide a reasonable assurance of compliance with emission limitations or standards for the anticipated range of operations at a pollutant-specific emissions unit, CAM must be designed in such a manner as to satisfy the general criteria requirements contained in §64.3 (a)(1) through (3). Thus, proposed CAM must include the following:

- Collection of data for one or more indicators of emission control performance for the control device, any associated capture system and, if necessary, processes at a pollutant-specific emissions unit.
- Appropriate range(s) or designated condition(s) for the selected indicator(s) such that operation within the ranges provides a reasonable assurance of ongoing compliance with emission limitations or standards for the anticipated range of operating conditions.
- Indicator ranges or designated conditions in accordance with §63(a)(3)(i) through (iv).

In order to comply with these requirements, Big River has proposed the following CAM matrix:

Source Designation	Pollutant	Proposed Monitoring Parameters	Proposed Monitoring Frequency	Proposed Parameter Ranges/Conditions
EPN-1A	PM	Method 5 Emissions Tests	Twelve (12) months	Process Weight
		Visible Emissions Observations (VEO)	Weekly	Instantaneous Opacity < 10%
		Scrubber Liquid Flow Rate	Continuously	Between 80% and 120% of most recent compliance test
EPN-2A	PM	Method 5 Emissions Tests	Twelve (12) months	Process Weight
		Visible Emissions Observations (VEO)	Weekly	Instantaneous Opacity < 10%
		Pressure Differential ( $\Delta P$ )	Continuously	Between 90% and 110% of most recent compliance test
		Scrubber Liquid Flow Rate	Continuously	Between 80% and 120% of most recent compliance test
EPN-1B, EPN-2B	PM	Method 5 Emissions Tests	Twelve (12) months	Process Weight
		Visible Emissions Observations (VEO)	Weekly	Instantaneous Opacity < 10%
EPN-3A	PM	Method 5 Emissions Tests	Twelve (12) months	BACT (0.36 lb/ton raw material and 22.97 lb/hr)
		Visible Emissions Observations (VEO)	Weekly	Instantaneous Opacity < 10%
		Pressure Differential ( $\Delta P$ )	Continuously	Between 12.54 and 19.11 inches of H <sub>2</sub> O
	SO <sub>2</sub>	Method 6 Emissions Tests	Twelve (12) months	BACT (2.24 lb/ton raw material and 145.0 lb/hr)
		Removal Efficiency Testing	Twelve (12) months	Minimum of 80% Removal Efficiency
		Scrubber Liquid Flow Rate	Continuously	Between 80% and 120% of most recent compliance test
		Scrubber Liquid pH	Continuously	Set point pH 3.5 (minimum)
EPN-3B	PM	Pressure Differential ( $\Delta P$ )	Continuously	Between 12.54 and 19.11 inches of H <sub>2</sub> O
		Method 5 Emissions Tests	Twelve (12) months	BACT (0.17 lb/ton raw material and 17.74 lb/hr)
		Visible Emissions Observations (VEO)	Weekly	Instantaneous Opacity < 10%
EPN-4, EPN-5	PM	Pressure Differential ( $\Delta P$ )	Continuously	Minimum of 1 and maximum of 10 inches of H <sub>2</sub> O
		Visible Emissions Observations (VEO)	Weekly	No visible emissions present

#### §64.3(b)(1), (3), and (4) - Performance Criteria

As stated in §64.3(b)(1), (3), and (4), proposed CAM must be designed in such a manner as to satisfy the following performance criteria:

- Specifications that provide for obtaining data that are representative of the emissions or parameters being monitored (such as detector location and installation specifications, if applicable).
- Quality assurance and control practices that are adequate to ensure the continuing validity of the data.
- Specifications for the frequency of monitoring, the data collection procedures used and, if applicable, the period over which discrete data points will be averaged for the purpose of determining whether an excursion or exceedance has occurred.

The facility has identified the following compliance indicators for the indicated control device:

##### *Method 5 (PM) Emissions Tests*

- The concentration of emissions exiting the scrubber are indicative of proper operation and maintenance.
- Particulate matter emissions tests must be performed annually in accordance with Method 5 of 40 CFR 60 Appendix A.
- Testing will also establish the  $\Delta P$ , pH, and flow rate ranges which indicate compliance with the allowable emissions limit.
- Should the measured emissions rate exceed the allowable emissions limit, the event will be recorded as an excursion and must be reported to the Department as a deviation.
- Favorable test results would indicate compliance with the applicable emissions limit.

##### *Method 6 (SO<sub>2</sub>) Emissions Tests*

- The concentration of emissions of exiting the scrubber are indicative of proper operation and maintenance.
- Sulfur dioxide emissions tests must be performed annually in accordance with Method 6 of 40 CFR 60 Appendix A.
- Testing will also establish the  $\Delta P$ , pH, and flow rate ranges which indicate compliance with the allowable emissions limit.
- Should the measured emissions rate exceed the allowable emissions limit, the event will be recorded as an excursion and must be reported to the Department as a deviation.
- Favorable test results would indicate compliance with the applicable emissions limit.

##### *SO<sub>2</sub> Removal Efficiency Tests*

- The ratio of sulfur dioxide entering and exiting the scrubber are indicative of proper operation and maintenance
- Removal efficiency would be measured during the annual sulfur dioxide emissions tests.
- Should the measured removal efficiency not meet the required minimum, the event will be recorded as an excursion and must be reported to the Department as a deviation.
- Favorable test results would indicate compliance with the minimum removal efficiency requirement.

#### *Baghouse Visible Emissions Observations*

- The opacity of any visible emissions exiting the baghouse are indicative of proper operation and maintenance.
- High opacity indicates reduced filter performance.
- When the observed opacity is outside of the indicator range, the event will be recorded as an excursion and must be reported to the Department as a deviation.
- Proper baghouse operation, as indicated by opacity, would result in a reasonable assumption that emissions below the allowable emissions limit.

#### *Scrubber Visible Emissions Observations*

- The opacity of any visible emissions exiting the scrubber are indicative of proper operation and maintenance.
- High opacity indicates reduced scrubber performance.
- When the observed opacity is outside of the indicator range, the event will be recorded as an excursion and must be reported to the Department as a deviation.
- Proper scrubber operation, as indicated by opacity, would result in a reasonable assumption that emissions below the allowable emissions limit.

#### *Multiclone Visible Emissions Observations*

- The opacity of any visible emissions exiting the multiclone are indicative of proper operation and maintenance.
- High opacity indicates reduced multiclone performance.
- When the observed opacity is outside of the indicator range, the event will be recorded as an excursion and must be reported to the Department as a deviation.
- Proper multiclone operation, as indicated by opacity, would result in a reasonable assumption that emissions below the allowable emissions limit.

#### *Baghouse Pressure Drop Monitoring*

- Pressure drop across the baghouse is indicative of the proper operation of the filter.
- High  $\Delta P$  may indicate filter bag blinding, plugging in dust hoppers, or improper valve operation.
- Low  $\Delta P$  may indicate damaged or detached filter bags or improper valve operation.
- When the observed pressure drop is outside of the indicator range, the event will be recorded as an excursion and must be reported to the Department as a deviation
- Proper baghouse operation, as indicated by  $\Delta P$ , would result in a reasonable assumption that emissions below the allowable emissions limit.

#### *Scrubber Pressure Drop Monitoring*

- Pressure drop ranges are based upon manufacturer suggested operating parameters (EPN-3A) or would be established during each annual emissions test which indicated compliance with the allowable emissions limits (EPN-1A and EPN-2A).
- Low  $\Delta P$  may indicate low liquid flow rates across the scrubber.
- High  $\Delta P$  may signal plugging or fouling.

- When the observed  $\Delta P$  is outside of the indicator range, the event will be recorded as an excursion and must be reported to the Department as a deviation.
- Proper scrubber operation, as indicated by  $\Delta P$ , would result in a reasonable assumption that emissions below the allowable emissions limit.

#### *Scrubber Liquid Flow Rate Monitoring*

- Flow rate ranges would be established during each annual emissions test which indicated compliance with the allowable emissions limits.
- Low pressure drops may indicate low liquid flow rates across the scrubber.
- High pressure drops may signal plugging or fouling.
- When the observed pressure drop is outside of the indicator range, the event will be recorded as an excursion and must be reported to the Department as a deviation.
- Proper scrubber operation, as indicated by liquid flow rate, would result in a reasonable assumption that emissions below the allowable emissions limit.

#### *Scrubber Liquid pH Monitoring*

- pH is indicative of proper scrubber liquid alkalinity for sufficient SO<sub>2</sub> removal.
- pH below the minimum requirement may indicate insufficient SO<sub>2</sub> removal efficiency.
- When the observed pH falls below the required minimum, the event will be recorded as an excursion and must be reported to the Department as a deviation.
- Proper scrubber operation, as indicated by pH, would result in a reasonable assumption that emissions below the allowable emissions limit.

#### §64.3(b)(4)(i) through (iii) - Monitoring Frequency

In addition, the monitoring frequency must be designed in accordance with the requirements of §64.3(b)(4)(i) through (iii), which include:

- The period over which data are obtained and, if applicable, averaged consistent with the characteristics and typical variability of the pollutant-specific emissions unit.
- For all PSEU with a PTE >100 TPY (*including* the effect of control devices): four (4) or more data values equally spaced over each hour over the applicable averaging period as determined in accordance with §64.3(b)(4)(i).
- For all PSEU with a PTE <100 TPY (*including* the effect of control devices): monitoring frequency shall include some data collection at least once per 24-hour period.

In accordance with these requirements, the following monitoring frequencies are required for each source subject to 40 CFR 64:

Emission Point	Pollutant	Pre-Control Emissions (tons)	Post-Control Emissions (tons)	> 100 TPY?	Minimum Required Monitoring Frequency (for at least one parameter)
EPN-1A	PM	2,102	105	Y	Four per Hour
EPN-1B	PM	1,073	53.7	N	Once per 24-hr period
EPN-2A	PM	2,102	105	Y	Four per Hour
EPN-2B	PM	1,800	90.0	N	Once per 24-hr period
EPN-3A	PM	5,030	101	Y	Four per Hour
	SO <sub>2</sub>	3,176	635	Y	Four per Hour
EPN-3B	PM	18,746	46.9	N	Once per 24-hr period
EPN-4	PM	7,446	0.74	N	Once per 24-hr period
EPN-5	PM	7,446	0.74	N	Once per 24-hr period

According to the CAM plan submitted by the facility, the proposed monitoring frequency of at least one indicator for each pollutant satisfies the minimum requirement.

#### §64.3(c) – Evaluation Factors

As stated in this section, the facility should take into account any site-specific factors, to include the applicability of existing monitoring equipment and procedures, the ability of the monitoring to account for process and control device operational variability, the reliability and latitude built into the control technology, and the level of actual emissions relative to the compliance limitation when designing CAM.

Currently, the facility operates continuous monitors to record pH, flow rate, and  $\Delta P$  across each scrubber. In addition, facility personnel have been monitoring opacity from the baghouses and multiclones as well as  $\Delta P$  across each baghouse. Therefore, the facility has proposed to integrate existing monitoring into CAM.

#### ***Approval of Monitoring***

In accordance with §64.6(a) and (b), the Department concurs that the proposed CAM, as contained in this application, meets the requirements of 40 CFR 64.



**RECOMMENDATION**

Based on above, I recommend that the MSOP No. 412-0005 be renewed for Big River Industries, Inc.

A handwritten signature in cursive script that reads "Christopher Osborne".

---

Christopher Osborne  
Industrial Minerals Section  
Energy Branch  
Air Division

July 11, 2013  
Date